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JOINT MEETING

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N.J. Joint outlet sewer commission

MINUTES

OF THE

JOINT MEETING

IN THE MATTER OF AN OUTLET SEWER
FOR THE FOLLOWING MUNICIPALITIES:

**IRVINGTON, MILLBURN,
NEWARK, SOUTH ORANGE,
SUMMIT AND WEST ORANGE**

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III

PERIOD OF MAINTENANCE 1915-1926.

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OFFICERS AND MEMBERS OF THE JOINT MEETING

DURING THE

MAINTENANCE PERIOD FROM JUNE, 1915 TO JUNE, 1926.

CHAIRMAN.

FRANCIS SPEIR, South Orange.....1915-1925
WM. S. HUNT, South Orange.....1925-1926

VICE CHAIRMAN.

ARTHUR R. DENMAN, Newark.....1915-1917
WELLINGTON CAMPBELL, Millburn.....1918-1926

SECRETARY.

EDWARD S. RANKIN, Newark.....1915-1926

TREASURER.

SIMEON H. ROLLINSON, West Orange.....1915-1926

COUNSEL.

ADRIAN RIKER, Newark.....1915-1926

ENGINEER.

ALEXANDER POTTER, New York.....1915-1926

MEMBERS.

Newark,	Arthur R. Denman,	1915-1917
	Harrison R. Van Duyne,	1917-1924
	James W. Costello,	1924-1926
Irvington,	Harry J. Stanley,	1915-1926
Millburn,	Wm. Byrd,	1915
	Wellington Campbell,	1916-1926
South Orange,	G. F. Seymour, Jr.	1915-1917
	N. S. Bartow,	1917-1920
	D. W. Richards,	1920-1922
	Graham King,	1922-1926
	E. Morgan Barradale,	1926
West Orange,	John J. Kenney,	1915
	C. O. Woodruff,	1916
	P. J. Corr,	1917
	Charles Lehrer,	1918
	B. P. Laidlaw,	1919-1920
	Walter D. Van Riper,	1921-1922
	Frank A. O'Connor,	1922-1926
Summit,	J. G. D. Knight,	1915
	Edward G. Pringle,	1916-1926

At a meeting of the Joint Meeting held June 24th 1926, the Secretary was directed to have bound the minutes beginning with the end of Volume II to date.

In accordance with this motion, this volume is herewith presented comprising the minutes of the Maintenance Period from September 15, 1915, to June 16th, 1926 inclusive.

EDWARD S. RANKIN,

Secretary.

Joint Meeting of September 16th, 1915.

A meeting of the Joint Meeting was held in the South Orange Village Hall on Thursday evening, September 16th, 1915, at 8 o'clock.

Present—Mr. Francis Speir, Chairman; Messrs. Wm. Byrd, Millburn, J. J. Kenney, West Orange; A. R. Denman, Newark; H. J. Stanley, Irvington; G. F. Seymour, Jr., South Orange; and Gen. J. G. D. Knight, Summit.

The minutes of the last meeting were approved as printed.

The Engineer submitted the following report, which was received and ordered printed in the minutes.

September 16, 1915.

To the Joint Meeting.

Gentlemen:

At the last session of the Joint Meeting the representative of Millburn, Mr. Byrd, requested that I investigate and report upon the measurement of that portion of the flow from Millburn that is discharged through the South Orange-West Orange branch, most of Millburn's sewage being discharged through the Summit-Millburn section of the joint trunk sewer. The question propounded was, whether a weir could be constructed and maintained on the joint trunk sewer as opposed to the construction of a number of weir manholes on the various branches contributing to this branch of the joint trunk sewer.

This inquiry by Millburn raises a very important question in reference to the measurement of the flows in the joint trunk sewer. At the time the sewer was constructed no accurate instrument had been devised and put in operation for measuring such flows in gravity sewers and the only method of determining the flow in the sewers without a considerable loss of head was to determine it from the velocity and the depth of flow in the sewers. Measurements taken in this way cannot be relied upon within from five to ten per cent. and this inaccuracy is not always in the same direction. To maintain two meters upon the same sewer line so close together as would be the case if Millburn constructs this projected meter, would give results wholly misleading.

On the other hand, if we take advantage of Millburn's need and install a Venturi meter such as is now upon the market for

measuring sewer flows, we will be just as far away from determining Millburn's contribution as now because of the inaccuracy of the guage higher up on the line. Millburn's contribution would be the difference between the recorded flows of the two gauges. If the upper gauge is inaccurate, we might, and probably would, get wholly misleading data in reference to Millburn's flow.

It would seem to me that the time has arrived when we need more accurate information as to the exact flows contributed to the various branches of the joint trunk sewer. Heretofore, a knowledge of these flows within five to ten per cent, has answered every requirement of the case, but as the sewers approach their maximum capacity it becomes essential to know with some definiteness the amount contributed at each of the gauges.

Modern, accurate gauges will cost approximately $400.00 apiece. To install throughout the system a sufficient number of these gauges to determine with accuracy the amount of flow from each of the towns will probably require an expenditure of $6,000 in round figures.

When writing to Mr. Byrd upon this subject, I estimated that ten guages would be sufficient. I am of the opinion that to accurately record the flows from the various towns there will be required about ten guages. I am further of the opinion that this matter of securing accurate gaugings of the flow in the sewers is of sufficient importance to warrant the expenditure estimated above.

Flow from South Orange Township.

In reference to the flow from South Orange Township, as requested by the representative of Millburn; I have not been able to take a sufficient number of readings to report with accuracy the probable contribution from South Orange Township to the joint trunk sewer, but from such records as have been taken, it would seem as if the dry weather flow from South Orange Township's sewers is about 600,000 gallons per day.

On the joint trunk sewers sufficient readings have been taken to establish the relation between the dry weather flow and the maximum weekly and monthly flows, but these determinations have not been made in reference to the South Orange Township sewers and a sufficient period has not elapsed in order to determine this ratio. As soon as sufficient determinations have been made, this ratio will be recorded.

In South Orange Village, the relation of summer flow to the maximum daily flow is approximately 1 to 3.

Contract Between West Orange and Orange.

I have reported from time to time the effect upon the joint trunk sewer of the excess flow coming from West Orange since

the contract for the exchange of flows was entered into between West Orange and Orange. There can be no question but that Orange is contributing to the joint trunk sewer very much more than West Orange is contributing to the Orange sewer. The Chairman of the Sewer Committee of West Orange was of the opinion that this contract did not terminate until next year. Whether this is true or not, is unimportant; the important matter is that the towns contributing to the joint trunk sewer should not be disadvantageously affected because of any inequal terms in a contract between one of the members of the joint trunk sewer and an outside municipality.

Flow from Union Township.

At a previous meeting of the Joint Meeting, I took up the question of a proper charge against the Township of Union, as the contributions of sewage from the territory comprised in the original Township of Union, that is, as it existed at the time of the signing of the contract, exceed the amount of their free allotment by a substantial amount. Since the date of the contract, portions of Union Township have been absorbed by the City of Elizabeth. The question arises as to whether the sewage flow from this territory now included in the City of Elizabeth is a charge against the quota of the Township of Union, or whether it automatically became a charge against Elizabeth's quota. Another portion of Union Township drains through Roselle Park's sewers, and your engineer was undecided as to whether this flow from Union Township discharged through Roselle Park was a charge against Union Township's quota in the joint trunk sewer.

These two matters were referred to Mr. Riker and his answer is submitted herewith. In a word, it is Mr. Riker's opinion that Union Township's quota is limited to the territory of that municipality as it may exist from time to time, and that Roselle Park is entitled to its contract capacity without reference to the source from which the sewage comes. Under this ruling of Counsel, the amount contributed by Union Township is less than the maximum free allotment.

Break in Sewer on South Orange Avenue.

Since the last meeting, a break occurred in the 10-inch joint trunk sewer on South Orange Avenue near the Vailsburg Amusement Park. From inspections of this work made by the writer and members of his staff, both recently and when a previous break occurred about two years ago at the same point, there seems to be no question but that the cause of the break was due to the construction of Newark's storm sewer, which is built within a few feet of the sanitary sewer and at approximately 4 feet lower grade. Whether the expense of this repair should be borne

proportionately by the towns contributing to this particular section of the joint trunk sewer, namely; Irvington, Newark, including Vailsburg, and South Orange, or whether it should be a general charge upon the joint trunk sewer as a whole, or whether it will be paid for in some other way, is a matter for the Joint Meeting to decide.

Damage from Storm of August 3d.

During the severe storm on the 3d of August, the concrete bridge over the Rahway River on Pierson Road was completely wrecked and carried away with it the South Orange Township sewer discharging at that point into section 1. During this storm the river water entered the joint sewer through the broken pipe, which was 8 inches in size. The break has not as yet been repaired by South Orange Township, but the direct connection between the joint sewer and the river through this 8-inch pipe has since been sealed.

Painting of Cast Iron Pipe Crossings.

I beg to report that J. P. Kernan has satisfactorily completed the painting of the cast iron pipe through the property of the Elizabethtown Water Company and at other points where the cast iron pipe is exposed. The pipe has received two coats of black asphaltum paint in accordance with specifications. Before the paint was applied the pipe was thoroughly cleaned of rust spots and dirt with steel brushes and the completed work is in an acceptable condition. The cost of this work is $150.00.

Respectfully submitted,

Alexander Potter.

RIKER AND RIKER,

Attorneys and Counsellors-at-Law,
164 Market Street, Newark, New Jersey.

Subject: Joint Meeting, Contract with Elizabeth, Union and Roselle Park.

August 4, 1915.

Mr. Alexander Potter,
50 Church Street,
New York City.

Dear Sir:—

I have yours of August third in the above matters, and while I have not yet received any insuructions from the Joint Meeting,

I have nevertheless examined the contracts bearing on this subject, and have reached the following conclusions:

The contracts with the City of Elizabeth and the Township of Union are found in the pamphlet published in 1911 at pages 71 and 78.

The grant to the City of Elizabeth was the right to discharge house drainage into the sewer equal to 100,000 cubic feet per diem, stated to be the maximum amount, and required to be discharged exclusively from within the City of Elizabeth above Woodbridge Avenue. My opinion is that the annexation of additional territory to the City of Elizabeth, theretofore part of the Township of Union, brings the annexed territory within the provisions of the contract of the City of Elizabeth, and that the total sewage discharge into the sewer above Woodbridge Avenue up to the new city limits is limited by the contract to a maximum of 100,000 cubic feet per diem.

The contract with the Township of Union grants to that municipality the right to discharge into the Joint Sewer house drainage and sewage matter up to the amount of 375,000 gallons per diem, 150,000 gallons per diem without any charge; for excess of discharge above 150,000 gallons per diem and not exceeding 200,000 gallons per diem, $900.00, as soon as the discharge exceeds 150,000 gallons per diem, for any discharge in excess of 200,000 and not exceeding 300,000 gallons per diem, $900.00 additional as soon as the discharge exceeds 200,000 gallons; and for a discharge in excess of 300,000 gallons, up to 375,000 gallons per diem, an additional sum of $700. in cash as soon as the discharge exceeds 300,000 gallons per diem.

The capacity thus granted to the Township of Union, is, in my opinion, limited to the territory of that municipality as it may exist from time to time. If it has made payments on the basis of larger capacity before the territory was annexed to Elizabeth, an adjustment would properly have been made between those two municipalities.

The contracts with the Borough of Roselle Park are found at page 81 of the printed pamphlet and in the separate contract, not printed, executed some time after 1911, the exact date of which I have not in my files.

The original contract of 1903 provided that the Borough of Roselle Park should have a capacity of 375,000 gallons per diem, that the connection with the Joint Sewer should be made at or near the intersection of the lot known as Park Avenue with Bayway; that the measurement of the discharge should be made by a weir at or near the point of connection. By the subsequent contract the capacity of the Borough was increased at 1,375,000 gallons, to be discharged through the connection already established, and to be measured at that point.

There is nothing in either of the contracts with the Borough of Roselle Park exclusively limiting the discharge into the joint outlet to sewage arising within the limits of the Borough, and my remembrance is that Roselle Park had a separate agreement with Union Township, which provided for the taking of sewage from some part of Union into the connecting sewer from Roselle Park to the Joint Sewer.

My conclusions therefore are:

1: Elizabeth is entitled to a maximum of 100,000 cubic feet per diem for territory above Woodbridge Avenue to the City limits.

2: Union Township is entitled to 150,000 gallons maximum per diem without any payment, 50,000 gallons maximum per diem additional upon payment of $900.00; additional 100,000 gallons per diem for an additional payment of $900.00, and an additional capacity of 75,000 gallons per diem for $700.00.

3: That Roselle Park is entitled to a capacity of 1,375,000 per diem maximum, without reference to the source from which the sewage comes.

Yours very truly,
(Signed) ADRIAN RIKER.

The several recommendations were then taken up as follows:

Gauges. After some discussion this matter was referred back to the Engineer for further consideration.

Contract between Orange and West Orange. A report on this subject was requested from Mr. Kenney at the next meeting.

Break in South Orange Avenue Lines. Mr. Byrd moved that it be referred to the Counsel to determine whether it is proper and possible to recover this charge from the person causing the damage and if this is not possible to advise the Joint Meeting whether this should be a general charge or whether it should be divided among the municipalities using this branch. Carried, all voting aye.

On behalf of the Committee on revision of the minutes, Mr. Denman presented the following communication:

Office of Secretary,
City Hall, Newark, N. J., Sept. 13, 1915

MESSRS. FRANCIS SPEIR, JR., ARTHUR R. DENMAN and WILLIAM BYRD,
Committee on Revision of Minutes, etc.

Gentlemen:—

I have had an estimate made of the cost of reprinting and

indexing the minutes. There are about 800 printed pages which at the estimated cost of $1.50 per page would amount to $1,200.00.

The Assistant Librarian of the Newark Public Library, whom I consulted regarding the index, estimates this cost at $100.00.

I find 94 copies of the Final Report, 39 copies of the Contracts and Laws, and 153 copies of the Rules and Regulations, so that it would seem unnecessary to have any more of these printed for some time to come.

Respectfully,

EDWARD S. RANKIN,
Secretary.

The matter was referred back for further consideration with a view of having the work done at less cost. The Secretary submitted sample of binder for new minutes; referred to same committee.

Mr. Denman submitted the report of Engineers Casey and Rankin on the excessive flow in the Irvington and Newark sections.

MESSRS. ARTHUR R. DENMAN and HARRY J. STANLEY,
Committee to examine and report on the excessive flow in Newark and Irvington.

Gentlemen:—

In accordance with your instructions we have made a careful investigation of the flow in the Newark and Irvington sections of the Joint Outlet Sewer, and would respectfully report as follows:

We have endeavored as far as possible to analyze the total flow, separating it into two main divisions and a number of subdivisions in accordance with the following schedule:

I. Legitimate flow.
   a. Sewage proper;
   b. Flush tank flow;
   c. Permittable factory waste.

II. Additional flow due to
   a. Rainfall from roofs and yards;
   b. Surface water through manhole covers;
   c. Unnecessary factory waste;
   d. Underground leakage;
      1. Normal ground water;
      2. Rain water.

It is, of course, impossible accurately to determine these several factors, but even an approximation is of assistance in endeav-

oring to lessen the flow, and furnishes a more accurate basis on which to compare the flows from the several municipalities using the Joint Sewer.

Total Flow.

The total flow is in all cases taken from the gaugings furnished by Mr. Potter for the year 1914, and is assumed to be correct.

Sewage Proper.

Aside from water used for fire protection and street and lawn sprinkling, practically all of the water consumed reaches the sewers, so that for practical purposes the sewage proper is usually assumed to be equal in volume to the water supply.

In neither Irvington or Newark can this be determined, exactly, as the Clinton Water Company claim to keep no record of the Irvington supply, and the section of Newark sewered by the Joint Sewer bears such a small relation to the whole City with its large manufacturing interests that the average per capita consumption for the whole City is not applicable for this section alone. However, by comparison with South Orange and Summit, whose consumption is known and from meter records in the Newark section, we have arrived at a close approximation to the actual water used.

With a population of 5,866, South Orange has a water consumption of 545,848 gallons or 93 per capita.

Summit consumes 750,000 gallons with a population of 9,132 or 82 gallons per capita. Allowing 15 per cent, for fire protection, sprinkling, manufacturing, underground waste, etc., the domestic consumption would average about 75 gallons per person, which figure is assumed for Irvington. In Newark the meter records for dwellings show considerably less and about one-half the houses are metered. Unmetered houses will average about 40 per cent, higher, so that the domestic consumption in Newark is assumed at 70 gallons per capita, with an addition for schools, factories, etc., in which the consumption is known, bringing the total very close to the same figure of 75 gallons per capita.

Based on these figures the sewage proper would be, Newark (population 18,400), 1,411,000 gallons per day; Irvington (population 20,342), 1,525,650 gallons per day.

Flush Tanks.

The Irvington flush tanks have been all discontinued, and are only used for hand flushing, the water for this purpose being included in the 75 gallons per day above assumed.

There are 60 flush tanks on the Newark system averaging about 600 gallons per day apiece, or 36,000 gallons per day.

Factory Waste.

Aside from the Castles Plant, there seems to be no good reason for excluding the factory waste from the sewers in these sections and it is included in the figures given for sewage proper.

The Castles Plant has been reported on several times. In his report of September 24, 1914, Mr. Potter states that 170,000 gallons of pure water are being discharged into the sewer per day.

At a recent visit to the plant their engineer put the amount at between 187,000 and 209,000 per day, and a gauging of the Fabyan Place sewer shows a flow of 214,000 gallons per day, from which should be deducted 8,000 gallons from houses on the street, leaving 206,000 gallons from the Castles Plant, which substantially agrees with the Engineer's estimate.

Rainfall from Roofs and Yards.

A careful inspection of the district revealed a large number of leaders connected with the sewer. The number and approximate roof area drained is shown in the following table:

	Number.	Roof Area.
Irvington	96	95,000 sq. ft.
Newark, South Orange Avenue	50	42,750 " "
Newark, Nineteenth Avenue	42	77,480 " "
Newark, Lyons Avenue	43	32,600 " "
Newark, Vailsburg	57	61,000 " "
Total for Newark	192	213,830 " "

The Newark area includes the yard of the Cort Shoe Factory 8,400 square feet and the Sixteenth Avenue Car Barns. These leaders are not connected but an area of about 20,000 square feet drains into the pits which are connected with the sewer. These buildings are in Irvington but connect with the Newark sewer.

The total rainfall in 1914 was 44.76 inches, practically all of which reached the sewers from the above area, making an average per day of 7,280 gallons in Irvington and 16,400 gallons in Newark.

Taking the daily flow in the week of maximum flow these figures are increased to Irvington 37,125 gallons.

Newark 80,375 "

Contrary to former reports the least area in Newark is in the Lyons Avenue section.

Water Through Manhole Openings.

There is no question that under certain conditions a large quantity of water reaches the sewer through the perforations in the manhole covers, but it is impossible to determine what this

amount would be for a year. In his report of January 12, 1905, Mr. Potter estimates a flow from this source in the whole system under exceptional conditions at a rate of 18,000,000 gallons per day. This was during a thaw after a heavy fall of snow with the ground solidly frozen. Such a condition might not occur even once a year. Again, each manhole would take a different quantity due to its location and grade. To determine this factor accurately would require a series of observations for each manhole separately. For these reasons we have not attempted to separate this flow, but have included in it the flow due to leakage during storms.

Underground Leakage.

This item we have divided into two parts; the normal leakage which is nearly constant throughout the year and depends on the mileage and nature of the ground through which the sewer is built; and the additional leakage due to percolation of rain water through the soil. The normal leakage can be closely estimated by deducting the legitimate flow above determined from the average dry weather flow as shown on the gauges.

These figures are given in the following table:

	Average dry weather flow.	Sewage.	Normal ground water.
Newark	2,415,000	1,411,000	798,000
Irvington	1,838,000	1,526,000	312,000

The additional leakage during and immediately following storms, including that entering through the manhole covers, is, of course, the flow remaining after deducting all of the above factors from the average daily flow. This will give for Irvington 421,000 and for Newark 470,000 gallons, increasing during the week of maximum flow to 1,605,000 gallons for Irvington and 2,815,000 gallons for Newark.

It would appear from this study that the main cause of the trouble is the rain water leakage either through the ground or through the manhole covers, and that the roof water is a very small percentage of the whole. It is very possible that some roofs have been overlooked in the investigation and it is more than probable that many cellars are connected which may receive drainage from yards, thus increasing the flow from this source, but even double the area estimated would not reduce the maximum weekly flow in either case below the allotted capacity.

While not susceptible to proof, it is our opinion that a large percentage of this leakage enters through poorly laid house connections, these connections as a rule being laid with less care than the main sewers and without proper supervision. When it is remembered that the aggregate length of the connections is more

than half that of the main sewers, the importance of this factor becomes obvious.

It should be possible with our present knowledge to prevent in future additions to the system further leakage and unnecessary flow from all sources and to reduce to a considerable extent the present flow from roofs and manhole covers. We would, therefore, recommend that all leaders and yard drains be discontinued, that the perforations be closed in those manhole covers which are draining a perceptible amount of surface water, or the heads raised above the ground level; and that the Castles Plant be required to find another outlet for its clean water.

We would also urge upon all the municipalities that more care be exercised in the future in laying both sewers and house connections so that water-tight joints may be secured, and in preventing the connection of leaders, so that the additional flow which may be expected in the future will consist only of the normal flow due to the increase in population.

With careful attention given to these matters it is believed that for several years to come conditions will be no worse than at present and may even show an improvement.

Appended to this report are tables showing all of the above data with the Newark figures subdivided into the four sections on which gauges are placed. We also present diagrams showing the percentage which each class bears to the allotted capacity both for average daily flow and daily flow in maximum week. Also diagrams showing the relation between population, flow and rainfall for the 10 years since the sewer has been in operation.

A careful study of these tables and diagrams reveals certain discrepancies for which we are unable to account. For example, with the exception of 1914, the curves of flow for Newark follow quite closely the rainfall curve, which is to be expected, while the Irvington curves of flow appear to follow almost a contrary direction. Again with the exceptionally light rainfall of last year the Newark flow, and particularly that in the South Orange Avenue section, largely increased: the flow in this section for the maximum week being altogether out of proportion to its area. We would suggest that before final action is taken on this report, it be refered to Mr. Potter for any explanation he may be able to offer on these or any other points, and for any further suggestions or recommendations he may desire to make.

Respectfully submitted,

EDWARD S. RANKIN,
I. J. CASEY, JR.

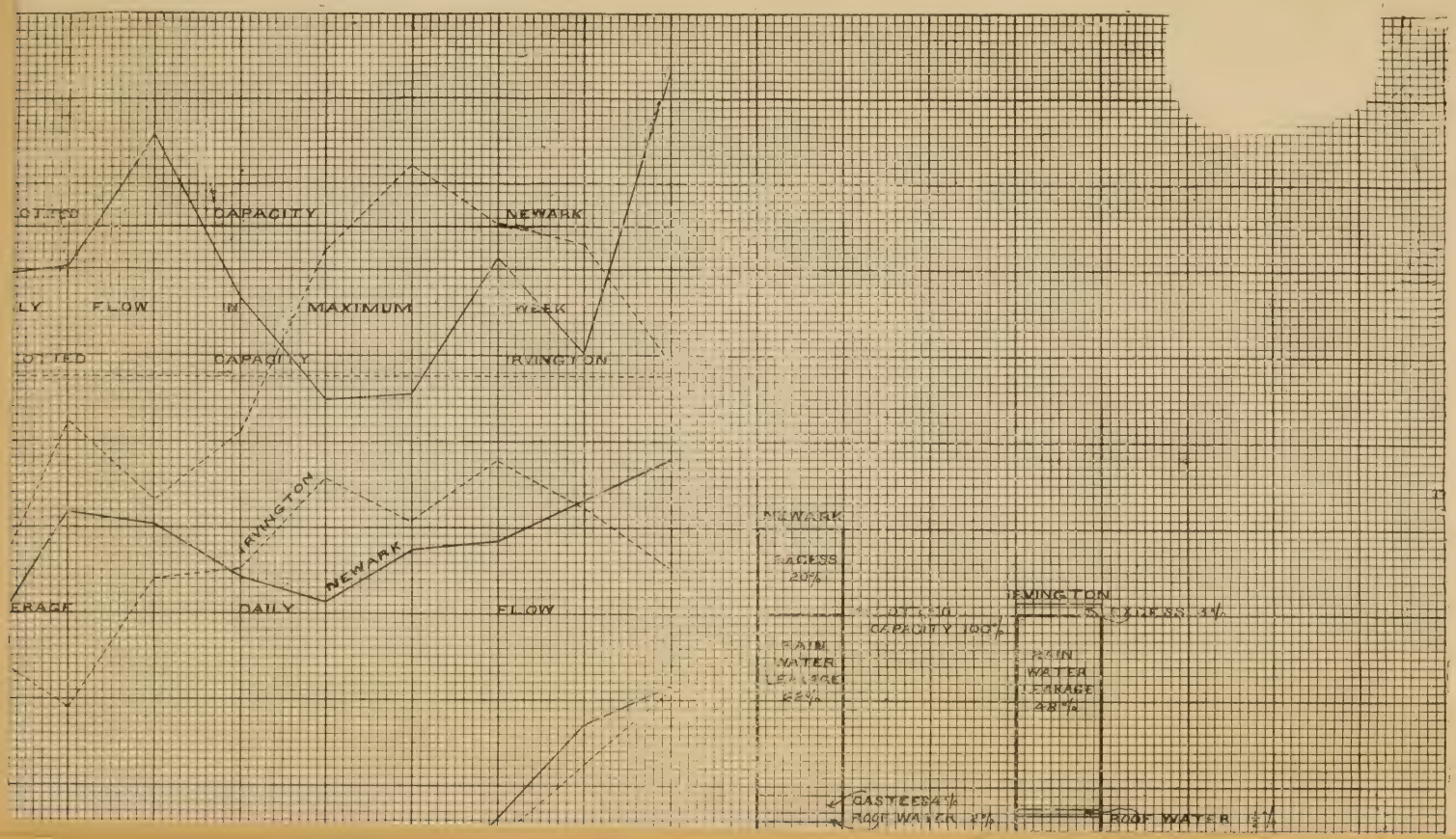
Dated, September 8th, 1915.

	FLOW IN 1000 GALLONS PER DAY				POPULATION CENSUS OF 1915	MILES OF MAIN SEWER	NUMBER OF TAPS	PERSONS PER TAP	AVERAGE DAILY FLOW IN 1000 GALLONS												DAILY ADDITIONAL FLOW IN MAXIMUM RECORD OF 1000 GALLONS		
	AVERAGE YEARLY	DRY WEATHER	MAXIMUM WEEKLY	ALLOTTED CAPACITY					GALLONS PER PERSON	GALLONS PER TAP	1000 GALLONS PER MILE	LEGITIMATE FLOW	ADDITIONAL FLOW: NORMAL GROUND WATER	ADDITIONAL FLOW: ROOF WATER	ADDITIONAL FLOW: RAIN WATER LEAKAGE	ADDITIONAL FLOW: CASTLES' PLANT	ADDITIONAL FLOW: TOTAL	ADDITIONAL FLOW: PER MILE OF SEWER	ROOF WATER	RAIN WATER LEAKAGE	TOTAL INCLUDING NORMAL GROUND WATER	PER MILE
SPRINGFIELD & ORANGE AVE.	304	278	430		† 2900	8.57	389	7.5	105	781	1.18	361	1.30	22		43	1.7	1.6	348	368	142
" 18TH AVE.	474	390	600		† 4000	2.85	452	8.8	1.18	1.048	1.66	294	96	60	78	180	6.3	29	181	306	1.07
" LYONS AVE.	740	630	900		† 1650	4.58	250	6.4	449	2870	1.63	1.26	288	35	107	206	614	1.80	63	1.8	858	568	1.85
" WILLSBURG.	1371	1123	1780		9850	18.30	1481	6.7	140	938	75	730	593	45	853		451	3.5	23	2078	2453	134
TOTAL NEWARK.	2889	2415	6310	42630	† 18400	28.26	2580	72	157	1180	108	1411	738	158	457	806	1478	45	80	2881	3693	131
IRVINGTON.	2246	1838	3480	33726	† 20345	4881	3059	6.6	111	741	58	1526	512	70	481		740	1.8	37	1460	1954	42

† ESTIMATED

× CASTLES' PLANT OMITTED.

GALLONS PER DAY
INCHES
THOUSAND GALLONS PER DAY
1905
1906
1907
1908
1911
1912
1913
1914
NEWARK
IRVINGTON
POPULATION
RAINFALL
AVERAGE DAILY FLOW
MAXIMUM DAILY FLOW
ALLOTTED CAPACITY
UNUSED 32%
SEWAGE 32%
GROUND WATER 19%
EXCESS 23%
EZBEURY (80%)
RAIN WATER LEAKAGE 28%
SEWAGE 45%
NORMAL GROUND WATER 3%
FOOT WATER 3%
AVERAGE DAILY FLOW FOR WEEK OF MAXIMUM FLOW 1914
AVERAGE DAILY FLOW FOR YEAR 1914


CAPACITY
NEWARK
FLOW
MAXIMUM
WEEK
CAPACITY
IRVINGTON
IRVINGTON
NEWARK
DAILY
FLOW
NEWARK
ACCESS 20%
IRVINGTON
CAPACITY 100%
ACCESS 3%
RAIN WATER LEAKAGE 22½%
RAIN WATER LEAKAGE 48%
CASTEEL 4%
ROOF WATER 2%
ROOF WATER

On motion the report was received and ordered printed in the minutes and the recommendation concurred in that it be referred to Mr. Potter.

Mr. Seymour reported that on Meadow Brook Lane there were three manholes which several times a year overflowed and discharged sewage over the surface. Mr. Potter explained that this was caused by the excessive flow from Orange, and could be remedied by diverting more of the West Orange flow into the Orange system.

Gen. Knight inquired if any progress had been made as to the proposed new method of apportioning the cost of maintenance. Mr. Stanley stated that no action had as yet been taken by Irvington.

The Secretary presented a letter from Mr. Herbert S. Fish asking that a new warrant be drawn in settlement of his bill of $3.00 against the Joint Meeting as the old warrant had evidently been lost. On motion the Secretary was directed to issue a duplicate warrant. Six ayes, no noes.

The Secretary reported that he was in receipt of a letter from the Elizabeth authorities stating that the Joint Meeting would be properly notified of all connections contemplated to be made with the Joint Sewer. Also a list of 81 connections already made.

Instructions were asked for as to the disposition of the sum of $41.40 in the Earle and Dougherty construction account. Referred to Mr. Potter.

The Oath of Office of the Secretary was received and ordered filed.

The following resolution was presented and on roll call unanimously adopted:

Resolved, That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $3,500, which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-

sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

RESOLVED, That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 16th day of September, 1915.

This is the assessment for the 2d and 3rd quarters of 1915.

The Treasurer submitted the following report, which was received and ordered printed in the minutes:

TO THE VARIOUS MUNICIPALITIES COMPRISING THE JOINT SEWER MEETING.

Gentlemen:—

The Treasurer respectfully reports, that on the Twenty-fourth day of June, Nineteen Hundred and Fifteen, the date of his last report, he had on deposit in the Orange National Bank, the sum of Twenty-one Hundred and Seventy-five Dollars and Forty Cents ($2175.40), with two warrants, 2071 for Two Dollars and Fifty Cents ($2.50), and 2125 for Three Dollars ($3.), outstanding, so that the total amount of cash on hand on that date was Twenty-one Hundred and Sixty-nine Dollars and Ninety Cents ($2169.90).

The Treasurer further reports that since the date of his last report he has made no deposits in the Orange National Bank, but has been credited with the sum of Seven Dollars and Fifteen Cents ($7.15) interest, as shown on Schedule 1, hereunto annexed, so that with the balance above referred to, he had cash on hand amounting to Twenty-one Hundred and Seventy-Seven Dollars and Five Cents (2177.05).

The Treasurer further reports that since the date of his last report, he has signed warrants, as shown on Schedule 2, hereunto annexed, amounting to Fifteen Hundred and Thirty Dollars and Sixty-seven Cents ($1530.67), so that the total amount of cash now on hand amounts to Six Hundred and Forty-six Dollars and Thirty-eight Cents ($646.38). The two warrants above referred to are still outstanding, as is also warrant 2207 for Five Dollars ($5.), so that he now has on deposit in the Orange National Bank the sum of Six Hundred and Fifty-six Dollars and Eighty-eight Cents ($656.88).

All of which is respectfully submitted this Sixteenth day of September, Nineteen Hundred and Fifteen.

SIMEON H. ROLLINSON,
Treasurer.

SCHEDULE 1.

1915			
June 24	Balance		$2169.90
" 30	Interest		7.15
	Cash on hand		$2177.05

SCHEDULE 2.

1915			
May 29	Arthur Tepper	$ 35.16	
June 24	N. Y. Telephone Co.	24.09	
" 24	Summit Herald	54.00	
" 24	B. E. Larney	20.00	
" 24	Gilbert Smith	20.00	
" 30	Alexander Potter	83.33	
" 30	Corey W. Sandford	170.00	
" 30	John J. Keating	100.00	
" 30	Arthur Tepper	35.16	
" 30	S. H. Rollinson	62.50	
" 24	Arthur Tepper	7.25	
" 24	John J. Keating	1.60	
" 24	Francis Speir	20.00	
" 24	A. R. Denman	20.00	
" 24	Harry J. Stanley	20.00	
" 24	E. S. Allen	5.00	
" 24	G. F. Seymour, Jr.	10.00	
" 24	John J. Keating	20.00	
" 24	E. L. Smithers	5.00	
" 24	C. F. Coamey	5.00	
" 24	William Byrd	10.00	
" 24	John G. D. Knight	15.00	
" 24	Corey W. Sandford	10.60	
July 30	Alexander Potter	83.33	
" 30	Corey W. Sandford	170.00	
" 30	John J. Keating	100.00	
" 30	Edward S. Rankin	35.16	
Aug. 30	Alexander Potter	83.33	
" 30	Corey W. Sandford	170.00	
" 30	John J. Keating	100.00	
" 30	Edward S. Rankin	35.16	
			1530.67
	Balance		$ 646.38

The following bills were read, approved and ordered paid. All voting aye:

Alex. Potter, July Salary	$ 83.33
Corey W. Sandford, July Salary	170.00
John J. Keating, July Salary	100.00
Edward S. Rankin, July Salary	35.16
Alex Potter, Aug. Salary	83.33
C. W. Sandford, Aug. Salary	170.00
J. J. Keating, Aug. Salary	100.00
E S. Rankin, Aug Salary	35.16
Summit Herald, Printing Minutes 6	18.00
Summit Express Co., Moving safe, etc	25.00
C. Wolber Co, Stationery	2.50
Harold L. Bond & Co., Coupling	63.00
N. Y. Telephone Co., Bills to date	19.92
I J. Casey, Examination and report on flow in Newark and Irvington	200.00
E. S. Rankin, Petty Cash	43.00
C. W. Sandford, Expense Account	6.71
J. J Keating, Expense Acoount	3.30
Board of Street and Water Commissioners of Newark— Repairing South Orange Avenue Sewer	302.11
J. P. Kernan, Painting pipes	150.00

On motion adjourned at 9:45.

EDWARD S. RANKIN,
Secretary.

Annual Inspection October 29, 1915.

The annual inspection of the Joint Sewer was made on October 29th, 1915, those present being Mr. Francis Speir, Jr., Chairman; Messrs. Byrd, Kenney, Seymour, Knight, Stanley and Denman of the Joint Meeting, together with the Chief Engineer, Chief Inspector and Secretary. The following persons were also present on invitation of the Chairman: His Honor Mayor Raymond and Chief Engineer Sherrerd of Newark; Engineer Wrigley of the State Board of Health; Village Clerk Fitz Simmons of South Orange, Engineer Casey of Irvington, and Mr. F. C. Speir.

The start was made from the Newark City Hall at 10.45 A. M. and inspection made of the Irvington-Newark Branch and the South Orange-West Orange Branch, after which the party was entertained at luncheon by Mr. Speir at the Essex County Country Club.

In the afternoon the Millburn and Summit lines were gone over and then the party proceeded to the Port Newark Terminal, where the reclamation work being done by the City of Newark was explained by Mr. Sherrerd.

Owing to the torn-up condition of Bayway no attempt was made to visit the outlet of the sewer at Arthur Kill.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of December 16, 1915.

A regular meeting of the Joint Meeting was held at the South Orange Village Hall on Thursday evening, December 16th, 1915, at 8 o'clock.

Present: Francis Speir, Chairman; A. R. Denman, Newark; J. G. D. Knight, Summit; H. J. Stanley, Irvington; J. J. Kenney, West Orange; G. F. Seymour, Jr., South Orange, and Wm. Byrd, Millburn. Engineer Casey of Irvington was also present.

The Secretary called attention to an error in the minutes of the meeting of September 16th. On the 17th page, 25th line, "John J. Keating" should read "John J. Kenney".

Engineer Potter read the following report:

"December 16, 1915.

"To the Joint Meeting.

"Gentlemen:

"The joint report of the engineers of Newark and Irvington submitted on September 8th was referred to me. My report thereon has been delayed awaiting the receipt of information concerning the distribution of rainfall from the U. S. Weather Bureau at Trenton, the records for the year 1914 not having been tabulated. These reports have just come to hand.

"The Joint Meeting is more interested in the conclusions reached by Messrs. Rankin and Casey than in any other phase of their report, and so I hasten to say that I am in thorough accord with them in the principal conclusions reached, namely, that all roof leaders and yard drains be discontinued at once or as soon as possible, that all manhole covers draining a perceptible amount of surface water have the perforations closed or the heads raised to a higher level, and that the large volume of clear water flowing from the Castles Ice Cream Plant be eliminated from the sewer.

"The first two of these recommendations have been made repeatedly both by the writer acting alone and in joint reports submitted at various times to the Joint Meeting.

"The vital objection which the writer sees in the report of Messrs. Rankin and Casey is that while they have been able to discover very many more roof leaders than were discovered a year or two ago when an investigation of these roof leaders was undertaken, their reasoning and their diagrams would indicate that the effect of this roof water is not an important matter and that it forms but a very small portion of the total contribution to the sewer. While this is true considering the contribution in

terms of an average week or an average year, it is misleading when considered in relation to its discharge into the sewer and its effect upon the sewer at such times as the sewer is already overburdened, as it is in all normal high ground water conditions. The effect of the discharge of roof water into the sewer is measured not alone by the contribution from this source during periods of the year when the sewer is normally flowing at its maximum, but the admission of this additional and wholly preventable contribution at such a time creates an internal pressure upon the pipe which forces the water outwardly through the joints into the surrounding ground, thus effectively and effectually destroying that silting quality which is produced by the flow of the ground water towards the joints carrying a certain amount of silt which in time seals joints which when first constructed yield a certain amount of ground water infiltration.

"The theory of this silting up of the joints has been repeatedly enunciated, and perhaps the most notable example of such silting up of the joints and consequent gradual reduction of leakage is in the South Orange Village section draining towards Vailsburg. It will be recalled that when this work was finally accepted the leakage in this section exceeded a rate of 150,000 gallons per mile before a single house connection was made. Since that time the length of the sewer has been materially increased, for the average distance from the sewer to the houses throughout this district is perhaps longer than in any other section of the joint trunk sewer taken as a whole. Notwithstanding this increase in the length of the sewer, the contribution of this district even at periods of maximum flow is less than when the sewer was first put into service when there was no contribution of leakage from the house connections or of sewage flow from the houses themselves.

"In the opinion of the writer this condition of internal pressure due to the roof water reaching the sewers is the most vital objection to its admission in the joint trunk sewer and the most potent reason for its speedy elimination. It is not only a question of the additional volume produced from this source, but in times of exceedingly high flow the downspouts are not capable of carrying off the water fast enough and create additional head especially upon the house connections and portions of the sewer near to the house connections where originally they have been laid with less care than the sewers proper. Keeping the joints of these house connections constantly open causes them to act as drains for the large volume of ground water that collects around the houses, and it is the carrying off of this accumulated ground water through the open joints that causes the increased flow in the sewer for several days after a storm.

"I submit herewith two tables. Table No. 1 shows the number of storms occurring in 1914 divided into various classifi-

cations, namely, light, medium, heavy and severe rainfall, and indicates the percentage of capacity of the Newark and Irvington sewers used up at each of these periods.

TABLE No. 1.

Character of Storm	Weighted Average Rate of Precipitation (in. per hr.)	Number of Storms During Year	Average Hourly Rate of Discharge (gallons)	Percentage of Capacity of Newark and Irvington
Light	0.062″	114	300,000	3.9%
Medium	0.226″	31	1,080,000	14.1%
Heavy	0.417″	9	2,000,000	26.2%
Severe	0.685″	3	3,280,000	43.0%

"The second table is a record of flows during nine of the most severe or heavy rainstorms during the year 1914 as determined by an automatic rain gauge in Newark. In this table column A is the date of the storm, column B, the average rate of precipitation in inches per hour, column C, the rate of rainwater discharged in gallons per day, column D, the average flow in the sewer during the week, column E, the computed flow during storm periods, column F, the excess flow during storm period over the capacity held by Newark and Irvington, viz., 7,635,000 gallons.

TABLE No. 2.

A	B	C	D	E	F
Jan. 25	0.25″	1,200,000	8,180,000	9,380,000	1,745,000
" 31	0.28″	1,340,000	7,600,000	8,940,000	1,305,000
July 2	0.63″	3,020,000	6,120,000	9,140,000	1,505,000
" 11-12	0.82″	3,930,000	6,100,000	10,030,000	2,395,000
Aug. 20	0.47″	2,250,000	3,500,000	5,750,000	.....
" 29-30	0.67″	3,210,000	4,400,000	7,610,000	.....
Nov. 15	0.25″	1,200,000	4,040,000	5,240,000	.....
" 16	0.34″	1,625,000	4,040,000	5,665,000	.....
Dec. 13	0.25″	1,200,000	5,780,000	6,980,000	.....
Weighted Average	0.417″	2,000,000			

"While the diagrams prepared by Messrs. Rankin and Casey correctly indicate that the average percentage of contribution to the sewer from roof water leaders is only 1 1-2 per cent in Irvington and 2 per cent. in Newark during a week of maximum flow, and 0.5 per cent. in Irvington and 1 per cent. in Newark during the entire year, these percentages have no significance whatsoever and their inclusion in the diagram is liable to seriously mislead

the average reader. When it rains at all the roof water contribution to the sewers amounts to 53 per cent. of the allotted capacity during the severest storm, July 11-12, 26.2 per cent. during an average heavy rainfall, 14.1 per cent. medium rainfalls, of which there were 31, and 3.9 per cent. during light rainfalls, of which there were 114 during the year. These high percentages are significant and clearly show the seriousness of conditions existing in the sewer at various intervals of time.

"It must be admitted that even during brief storm periods the nuisance of overflowing manholes is undesirable, but when added to this we have the fact that the admission of roof water is effectually preventing that natural silting process which in time virtually increases the capacity of the sewer by eliminating much of the ground water, the reason for the elimination of the roof water is made all the more obvious. This ground water contribution in weeks of maximum flow, according to the diagram of Messrs. Rankin and Casey, amounts to 62 1-2 per cent. in the case of Newark and even more in Irvington when the correction referred to below is made.

"Ground water in considerable quantities reaches the joint trunk sewer in Irvington and in some sections of Newark through sub-surface drains connected to the sanitary sewer system, more generally, however, through poorly laid house connections. The practice of connecting sub-surface drains to the sanitary sewer appears to be more general in Irvington than in Newark.

"The normal ground water flow in Irvington is estimated by Messrs. Rankin and Casey to be 39 per cent. of that in Newark. This is contrary to the known facts, and the erroneous conclusion was reached by assuming the water consumption of Irvington at 1,526,000 gallons per day, whereas the actual water consumption as reported by the Water Company to the Board of Public Utilities in 1914 was 927,000 gallons. Modifying the figures accordingly, we find that the normal ground water flow in Irvington is 911,000 gallons per day, or approximately 14 per cent. more than in Newark.

"The elimination of underground leakage into the sanitary sewers, ranging from 20 per cent. to 50 per cent. of the allotted capacity of Irvington and Newark section, is a serious problem. There is no way of repairing a leaky sewer excepting by rebuilding it. The rainfall is the source of all this accumulated water, and as this section develops and the impervious surface increases less will reach the ground water and more of it will be discharged through storm drains into the natural water courses. In the laying of these storm drains, however, as much care should be taken to make them reasonably water-tight as is taken in the construction of sanitary sewers, for under the very interesting conditions pointed out by Gen. Knight in connection with the Summit

sewer, where with two feet of frost in the ground and a dry subsoil, a heavy thaw carrying the water from the streets through catch basins increased the flow in the sanitary sewer from a minimum flow of 250,000 gallons to a maximum of 3,000,000 gallons, it is impossible to escape the conclusion that the course of this water was from the street into the catch basin, thence into the unjointed storm sewers, thence out into the surrounding ground, thence into the sanitary sewer built at a lower level than the storm sewer, and thence to the pumping station.

"Flow from Castles Ice Cream Plant.

"The writer agrees with the recommendation that the flow from the Castles Ice Cream Factory should be eliminated from the sewer, if it can be shown (and it would seem that this could easily be shown) that these waste waters are far in excess of the quantity that they would reasonably be entitled to measured by the relative amount of taxes paid for sewer construction and maintenance compared with the total cost of sewer construction and maintenance in Irvington. On the other hand, it should be borne in mind that while the diagram submitted by the engineers would to a casual observer indicate that the contribution from the Castles plant is 100 per cent. greater than the contribution from the roof water during the week of maximum flow and 300 per cent. greater than the average flow for the year, the actual relation of these respective flows during the time when the capacity of the sewer is most needed is in reality 1:6, that is to say, the flow from the Castles factory is about one-sixth of the flow of roof water in the sewer. The above ratio expresses the relation during the nine heavy rain storm periods referred to in Table No. 2 above.

"Conclusions.

"1. The report of Messrs. Rankin and Casey is of value in that it shows that the abuse of the sanitary sewers by admitting roof water is on the increase judged by previous examinations of the number of houses having roof leaders connected to the sewers, in spite of my recommendation, favorably acted upon by the Board, that they be eliminated and in spite of the efforts of the Newark engineer to compass their removal.

"2. The recommendation to eliminate the roof leaders is valueless unless coupled with some concrete plan whereby the recommendation can be made effective.

"3. This investigation having been made at the request of the writer, he is of the opinion that the suggestion to have similar investigations made on the other sections should not be adopted until satisfactory results are obtained on the section where the effects from surcharged sewers seems greatest.

"RECOMMENDATIONS.

"The writer some time ago recommended the preparation of a law giving the Joint Meeting greater power over the construction and maintenance of sewers and house connections in the various municipalities, not only in respect to new construction but also in respect to sewers already constructed, but Counsel for the Joint Meeting pointed out that such legislation could not affect the validity of the contracts already drawn which give the individual municipalities control over their own sewers. This being the case and the population of some of the towns having already reached the ultimate population for which the sewer was designed to provide, greater sewerage facilities cannot be enjoyed without interfering with the capacities of other municipalities. Any effort to curtail individual municipalities in respect to additional sewerage facilities will very properly be resisted and it will therefore become necessary to determine by accurate and scientific means the exact contribution from each of the municipalities.

"The means now being used to determine these capacities, being more or less approximate, cannot be accepted as conclusive, and I would therefore recommend the early installation of accurate measuring weirs, such as were referred to in a previous report, so that the exact contribution of each of the municipalities can be scientifically determined.

"I would suggest that the thanks of the Joint Meeting be extended to Mr. G. Harold Noyes, Section Director of the U. S. Department of Agriculture at Trenton. At considerable personal trouble he prepared for your engineer a detailed record of the rainfall and also the various storm periods occurring during the year. The extent of this work can be best appreciated from an inspection of the records submitted herewith.

"At a previous meeting of the Joint Meeting the matter of the balance due to the firm of Earle & Dougherty on account of retained percentages was referred to your engineer with authority to take it up with Mr. Earle, the surviving member of the firm. I enclose herewith a letter received from Mr. Earle in which he states that he can give a receipt for the firm of Earle & Dougherty for the money which is held by the Joint Meeting, and that he will send half of the amount to Dougherty's widow. I would recommend that this disposition be made of the balance due Earle & Dougherty.

"'Hackensack, N. J., October 11th, 1915.

"'October 11th, 1915.

"'MR. ALEXANDER POTTER,

"'50 Church Street,

"'New York City.

"'Dear Sir:—

"'In response to your favor of the 8th inst. would state, that

I can give a receipt for the firm of Earle & Dougherty for the money which is held by the Joint Trunk Sewer Commission. I will then send one-half of the amount to Dougherty's widow, which I think will clear it up satisfactorily.

"'Thanking you for your attention to this matter, I am,

"'Yours very truly,

"'RALPH D. EARLE, JR.'

"The Inspector has reported a serious interference with the sewer by mischievous boys in the Vailsburg section, where he had to remove thirty-five stones besides a paint pot and other rubbish thrown into the sewer by school boys. This would indicate that it would be wise to adopt a plan for the gradual removal of the ordinary manhole covers and their replacement with lock manhole covers over the entire system. In the past, lock manholes have only been placed at crucial points, but it would seem to be wise when manhole covers break to replace them with lock covers, even on those portions of the joint trunk sewer not normally subject to willful or mischievous tampering.

"Respectfully submitted,

"ALEXANDER POTTER."

Mr. Potter also brought up the matter of the Orange flow and said that Orange claimed to have taken measurements and found that the flow was not as great as had been stated. The measurements, Mr. Potter said, were made by taking the depth of flow with a stick and hence were very inaccurate, neither had they been taken in times of storm.

Taking up the several features of the report, it was recommended that the Castles matter be referred to the member from Irvington.

A general discussion was held on the subject of meters and it was suggested by Gen. Knight that Venturi meters be installed only for those municipalities which were exceeding their capacity. After further discussion Gen. Knight moved that an experimental Venturi meter be installed at the South Orange-West Orange line, at the general expense. Motion was duly seconded and carried.

It was moved by Gen. Knight that in accordance with the recommendation of the Engineer, the Secretary be directed to extend the thanks of the Joint Meeting to Mr. G. Harold Noyes, Section Director of the U. S. Department of Agriculture, for his trouble in preparing rainfall records for the use of Mr. Potter. The motion was duly seconded and unanimously carried.

It was moved and seconded that a warrant be drawn to the order of Earle & Dougherty for $41.40 in final settlement of their claim against the Joint Meeting. Vote by roll call resulted six ayes, no noes.

The Engineer was instructed to place the eight lock manhole covers belonging to the Joint Meeting at the points where most needed.

The Treasurer being absent on account of sickness, his report was presented by Mr. Kenney, and after being read was on motion received and ordered placed on file.

"To the Various Municipalities Comprising the Joint Sewer Meeting.

"Gentlemen:—

"The Treasurer respectfully reports that on the Sixteenth day of September, Nineteen Hundred and Fifteen, the date of his last report, he had on deposit in the Orange National Bank, the sum of Six Hundred and Fifty-six Dollars and Eighty-eight Cents ($656.88), with three warrants outstanding, to wit: Warrants 2017 for Two Dollars and Fifty Cents ($2.50); 2125 for Three Dollars ($3.), and 2207 for Five Dollars ($5.), so that the total amount of cash on hand on that date amounted to Six Hundred and Forty-six Dollars and Thirty-eight Cents ($646.38).

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank the sum of Three Thousand Five Hundred Dollars ($3500.), and has been credited with Six Dollars and Ninety-two Cents ($6.92), as shown on Schedule 1, hereunto annexed, so that with the balance above referred to he had cash on hand amounting to Four Thousand One Hundred and Fifty-three Dollars and Thirty Cents ($4153.30).

"The Treasurer further reports that since the date of his last report he has signed warrants, as shown on Schedule 2, hereto annexed, amounting to Two Thousand and Sixty-four Dollars and Fifty-one Cents ($2064.51), so that the total amount of cash on hand amounts to Two Thousand and Eighty-eight Dollars and Seventy-nine Cents ($2088.79). Payment on outstanding warrant 2125 has been stopped. There remain outstanding warrants 2017 for Two Dollars and Fifty Cents ($2.50); 2207 for Five Dollars ($5.), so that he now has on deposit in the Orange National Bank the sum of Two Thousand and Ninety-nine Dollars and Twenty-nine Cents ($2099.29), with two warrants outstanding hereinabove referred to amounting to Seven Dollars and Fifty Cents ($7.50), so that the true amount of cash on hand is the sum of Two

Thousand and Ninety-one Dollars and Seventy-nine Cents ($2091.79).

"All of which is respectfully submitted this Sixteenth day of December, Nineteen Hundred and Fifteen.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1915.			
Sept. 16	Balance		$ 646.38
" 20	South Orange	$ 500.00	
" 20	Millburn	500.00	
" 20	Summit	500.00	
" 25	Irvington	500.00	
Oct. 2	Newark	1,000.00	
" 4	West Orange	500.00	
Sept. 30	Interest	6.92	
	Warrant 2125 (Stopped Payment)	3.00	
			3,509.92
	Cash on hand		**$4,156.30**

SCHEDULE 2.

1915.		
Sept. 20	Summit Herald	$ 18.00
" 20	Summit Express Co.	25.00
" 20	C. Walter Co.	2.50
" 20	Harold L. Bond Co.	63.00
" 20	N. Y. Telephone Co.	19.92
" 20	I. J. Casey, Jr.	200.00
" 20	Edward S. Rankin	43.00
" 20	C. W. Sandford	6.71
" 20	J. J. Keating	3.30
" 20	Board of S. & W. Com.	302.11
" 20	J. P. Kernan	150.00
" 20	Herbert S. Fish	3.00
Oct. 4	Alexander Potter	83.33
" 4	C. W. Sandford	170.00
" 4	John J. Keating	100.00
" 4	S. H. Rollinson	62.50
" 4	Edward S. Rankin	35.16
" 30	Alexander Potter	83.33
" 30	Corey W. Sandford	170.00
" 30	John J. Keating	100.00
" 30	Edward S. Rankin	35.16
Nov. 30	Alexander Potter	83.33

"	30	Corey W. Sandford	170.00	
"	30	John J. Keating	100.00	
"	30	Edward S. Rankin	35.16	
				2,064.51
		Balance		$2,091.79

Mr. Denman for the Committee on Revision of Minutes presented the following communication from the Secretary:

"Messrs. Francis Speir, Jr., Arthur R. Denman and William Byrd,

Committee on Revision of Minutes, etc.

"Gentlemen:—

"I submit herewith for your inspection the first 240 pages of the reprinted minutes. There will be about 150 more pages in addition to the index in the first volume. I had hoped to be able to present the volume complete at this meeting, but the time required was considerably more than I had anticipated.

"It may be of general interest to the Joint Meeting to learn that so far as I am able to ascertain, there was no complete set of these minutes in existence, but by combining the files of the former Secretary, the Chairman and the Engineer, it it believed that the reprinted minutes will contain a record of all the meetings, as well as those of the meetings prior to the official organization of the Joint Meeting, which were never printed.

"After getting together the complete set, considerable time was spent in correcting and rearranging the old minutes, as they were found to contain numerous mistakes, and many of the letters and reports, particularly those of the Engineer, were not in the proper place to make consecutive reading, and of course the entire matter had to be read over again with an assistant when the proof was received. As you know I have engaged an outside party to compile the index, and this is also a tedious operation.

"I would suggest that the Joint Meeting be requested to pass a resolution approving the action of the Committee.

"I would also ask instructions as to what disposition to make of the volumes when completed.

"Respectfully submitted,

"Edward S. Rankin,
"Secretary."

The following resolution was offered by Mr. Denman and on roll being called was carried, all voting aye:

"Resolved, that the action of the Committee on Revision of the Minutes in having reprinted as Volume 1, the minutes of the Preliminary Meetings, and of the Joint Meeting up to the end of the Construction Period, and of having the same indexed, be approved; and

"Resolved further, that the Committee be instructed to proceed with the reprinting and indexing of the second volume."

It was moved and seconded that all copies of the minutes sent to the several municipalities be labeled as property of the Joint Meeting, and be loaned subject to recall by the Joint Meeting. Carried.

Mr. Denman brought up the question of the contract between the several municipalities in reference to the redistribution of maintenance charges, and suggested that the contract be sent immediately to Summit, and from there to West Orange so that it could be presented to those municipalities by Messrs. Knight and Kenney, respectively, before their retirement from office. It was so recommended.

The Secretary presented the following communication from the Township Clerk of Millburn, which on motion was ordered placed on file:

"MILLBURN TOWNSHIP COMMITTEE.

"William Byrd, Chairman;
"Charles F. Coaney,
"George M. Taylor.

"Milton R. Silance,
"Treasurer and Township Clerk.

"Millburn, N. J., Dec. 4th, 1915.

"Mr. Edward S. Rankin, Secretary,
"Joint Commission,
"Newark, N. J.

"Dear Sir:—

"At a meeting of this Committee held November 15th, I was directed to transmit to you a resolution in reference to connecting the lateral sewer under Millburn Avenue with the Joint Sewer near Roland Avenue. I was under the impression that this resolution had been transmitted quite some time ago, but have discovered that I was mistaken. I therefore enclose you a copy of said resolution, another copy being sent to the Clerk of the

Township of South Orange.

"Yours very truly,

"M. R. SILANCE,
Township Clerk.

"(Enc.)

"'OFFICE OF TOWNSHIP CLERK,

"'MILLBURN, NEW JERSEY.

"'I, MILTON R. SILANCE, Township Clerk of the Township of Millburn, in the County of Essex and State of New Jersey, Do HEREBY CERTIFY, that the following annexed is a true copy or transcript from the Records in my office, relating to the

. . . . . .

"'Resolved, that the Township of South Orange be permitted to connect the lateral sewer under Millburn Avenue with the Joint Trunk Sewer near Roland Avenue, in accordance with the contract between the Township of Millburn and the Township of South Orange, dated May 1st, 1907.

"'Further Resolved, that a copy of the foregoing be transmitted to the Clerk of the Township of South Orange, and to the Secretary of the Joint Commission.'

"In Testimony Whereof, I have hereunto set my hand and the corporate seal of said Township of Millburn, on this Second day of December, A. D. 1915.

"M. R. SILANCE,
"Township Clerk."

(Seal.)

The following resolution was read and on roll being called was carried, all municipalities voting aye:

"Resolved, that the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1,750, which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further, that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"Resolved, that the said monies to be paid to the Treasurer of the Joint Meeting within twenty days of the 16th day of December, 1915.

"This is the assessment for the 4th quarter of 1915."

The following bills were read and passed, subject to the approval of the Auditing Committee, all voting aye on roll call:

Alexander Potter, September salary	$ 83.33
Corey W. Sandford, September salary and horse	170.00
John J. Keating, September salary	100.00
S. H. Rollinson, July, August, September salary	62.50
E. S. Rankin, September salary and office	35.16
Alexander Potter, October salary	83.33
C. W. Sandford, October salary and horse	170.00
John J. Keating, October salary	100.00
E. S. Rankin, October salary and office	35.16
Alexander Potter, November salary	83.33
C. W. Sandford, November salary and horse	170.00
John J. Keating, November salary	100.00
E. S. Rankin, November salary and office	35.16
Adrian Riker, retainer for year	250.00
American Surety Co., premium on Treasurer Bond	20.00
N. Y. Telephone Co.	17.71
C. Wolber Company, printing and stationery	10.75
Francis Speir	15.00
H. J. Stanley	15.00
J. G. D. Knight	15.00
Wm. Byrd	15.00
G. F. Seymour, Jr.	15.00
A. R. Denman	15.00
J. J. Kenney	15.00
C. W. Sandford, expense account	8.46
J. J. Keating, expense account	.70
E. S. Rankin, expense account	8.33
E. S. Rankin, petty cash	58.00

On motion the meeting adjourned at 10 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of February 10, 1916.

A regular meeting was held at the South Orange Village Hall on the above date at 8 P. M.

Present: Francis Speir, Chairman; Messrs. A. R. Denman, Newark; H. J. Stanley, Irvington; G. F. Seymour, Jr., South Orange; C. O. Woodruff, West Orange; Wellington Campbell, Millburn, and Edward G. Pringle, Summit; together with the Engineer, Treasurer, Chief and Assistant Inspector. Mr. Byrd, former member from Millburn, and Mr. Casey, Engineer of Irvington, were also present.

The minutes of the last meeting were approved as printed.

Mr. Potter presented his usual report, which was read and ordered printed:

"February 10, 1916.

"To the Joint Meeting:

"Gentlemen:—

"I present herewith a copy of a report of mine under date of January 14th, submitted to the Mayor and Town Council of Irvington, N. J., together with a copy of a reply thereto under date of January 9th (presumably the 19th), signed by Fred. A. Reimer, Consulting Engineer, and another dated January 19th, signed by I. J. Casey, Jr., Town Engineer:

"'January 14, 1916.

"'To the Mayor and Town Council,

"'Irvington, New Jersey:

"'Gentlemen:——

"'I beg to submit herewith a report upon the condition of a section of the Joint Trunk Sewer on Lyons Avenue which is affected by the proposed construction of the concrete storm drain on said street.

"'An unprejudiced reading of this report will indicate that the Joint Meeting has a proper cause of complaint, but the writer as Engineer of the Joint Trunk Sewer is placed in an embarrassing position, because months ago he realized that in the construction of this storm drain his knowledge of the situation, by reason of his having constructed both the Joint Trunk Sewer system in Irvington and the original Irvington sanitary sewerage system, would be of value to the Town, and he suggested both to your Town Engineer, Mr. I. J. Casey, Jr., and Commissioner H. J. Stanley that the retention of his services in an advisory capacity would be advantageous to the Town of Irvington. The

appointment by the Town of Irvington of another engineer in this advisory capacity gives unthinking and unfair minded people the right to unjustly attribute these criticisms to pique or disappointment because of the failure of the Irvington Council to retain my services.

" 'This matter was first brought to the attention of my office, when on Friday afternoon, January 7th, Mr. Corey Sandford, Chief Inspector of the Joint Trunk Sewer, reported that Mr. Dorer, the contractor for the storm drain, was excavating on Lyons Avenue and had inadvertently broken through the Joint Trunk Sewer at a point about 120 feet northwest of Union Avenue, and inquired as to whether or not the Town of Irvington had received permission to relay the Joint Trunk Sewer from this point southeast for a distance of 250 feet.

" 'Mr. Sandford was instructed by my principal assistant engineer to get in touch with Mr. Casey immediately and have him submit to this office plans showing what he proposed to do in regard to the Joint Trunk Sewer. Early Saturday morning my principal assistant, Mr. Beyer, got in touch with Mr. Casey over the telephone and arranged a conference with him in this office on Saturday afternoon.

" 'In the meantime the matter was brought to the attention of Mr. Speir, Chairman of the Joint Meeting, and the facts laid before him, and it was understood that under no conditions should the Town of Irvington be permitted to reconstruct or shift the Joint Trunk Sewer line unless there had first been submitted plans and specifications covering the work that it was proposed to do, and not until these plans had been approved by me could this work go ahead. Mr. Casey was present in the office when this conversation over the telephone was held with Mr. Speir.

" 'At the conference held on Saturday afternoon in my office, Mr. Casey submitted an outline plan showing the proposed improvements. None of the details were given on this plan which are absolutely necessary before this work can be passed upon, such as the distance between the proposed storm drain and the existing trunk sewer, the size and grade of the relocated sanitary sewer and the method of taking care of the Joint Trunk Sewer flow during the construction period. Mr. Casey was then requested to stop construction work on the Joint Trunk Sewer until this information had been obtained and a proper plan for connecting the new work to the existing work been submitted or worked out and approved by the Engineer of the Joint Trunk Sewer.

" 'On reaching my office on Monday morning my principal assistant engineer called my attention to the matter and I immediately gave it my personal attention and study, but the lack of definite information prevented my submitting to your Engineer a definite plan of procedure.

" 'On Tuesday morning Mr. Casey called me up on the telephone and asked whether I had prepared a plan under which he could proceed with the construction of the Joint Trunk Sewer and I advised him that I could not do so without more definite data, which he promised to bring into my office the following day.

" 'Shortly after this telephone conversation with Mr. Casey, Mr. Sandford called me on the telephone and stated that he was present during Mr. Casey's telephone conversation with me and noted that Mr. Casey had failed to state that the contractor was at that time proceeding with the work of reconstruction, notwithstanding my instructions to the contrary. I immediately left my office to make a personal inspection on the ground. I found that the contractor had smashed in the existing Joint Trunk Sewer at a point 125 feet below Union Avenue and had partially stopped the flow of sewage, which backed up in the Joint Trunk Sewer at Union Avenue; also he had already relaid a portion of the Joint Trunk Sewer.

" 'The smashing of the Joint Trunk Sewer was an inadvertance on the part of the contractor, due to the use of a steam shovel and his failure to determine the depth of the Joint Trunk Sewer at the point where the steam shovel started excavating. The failure on the part of the contractor to examine the damage done by the steam shovel and to remove from the Joint Trunk Sewer the large sections of broken pipe and other debris which found its way into the sewer and blocked it, is wholly inexcusable and should be censured. Furthermore, this negligence is responsible for an error made by Mr. Casey in establishing the grade of the new trunk sewer, for he took his levels from the top of the debris in the Joint Trunk Sewer instead of the clean invert of the pipe. This error can now be overcome by substituting an 18-inch pipe for the proposed 15-inch pipe to be laid on Lyons Avenue from Union Avenue east, a distance of 125 feet, to be laid on a flatter grade than the existing trunk sewer.

" 'I ordered all construction work stopped and instructed Mr. Casey to secure at once the additional information required so that a definite plan could be developed and the work carried out in accordance therewith. This information was secured by Mr. Casey on Wednesday and presented to me in person on Thursday morning, when a definite plan was adopted and approved by me for carrying out the reconstruction of the Joint Trunk Sewer which was made necessary not by the construction of the proposed storm drain but due to the fact that the center line of Lyons Avenue has been changed by the Town of Irvington since the construction of the Joint Trunk Sewer, so that the Joint Trunk Sewer no longer occupies the center line of the new street at the point where Union Avenue intersects Lyons Avenue.

" 'The plan adopted is as follows:

" 'It is proposed that the Joint Trunk Sewer for a distance of 250 feet be relocated to make room for the proposed storm drain, the relocated sanitary sewer to be constructed of 18-inch vitrified pipe laid to a grade of 0.2 per cent., and the joints to be filled with oakum and cement. The writer would prefer the use of a flexible water-tight compound, but as the contractor has already laid a certain portion of this line with oakum and cement he gave permission to continue provided each joint is thoroughly inspected by the inspector of the Joint Trunk Sewer. A manhole is to be constructed at each of the points where the relocated sewer intercepts the existing sewer. On either side of these connections the Joint Trunk Sewer for a distance of 10 feet is to be encased in concrete.

" 'It is also proposed to investigate the advisability of opening the old joint trunk sewer siphon just below Lyons Avenue with a view of by-passing the sewage when the connection just below Union Avenue is made with the existing Joint Trunk Sewer. If this cannot be done, a plan is to be submitted by the Town showing how they propose to take care of the sewage flow to enable the contractor to make the connections at the upper and lower end of the relocated sewer. Under no conditions can the Joint Meeting give permission to discharge the flow into the Elizabeth River, or tributaries thereof.

" 'It is understood that the distance between the center line of the sanitary sewer and the curb shall not be less than 19 feet 6 inches and that the storm drain will be so laid that its exterior wall will be not less than eight feet from the sewer.

" 'Mr. Casey advises us that as yet no detail plans have been worked out for the construction of the lower end of the storm drain on Lyons Avenue. If it should be found later on that the construction of this drain involves interfering with the Joint Trunk Sewer, the Joint Meeting must insist upon being furnished with detail plans showing how Irvington proposes to take care of the Joint Trunk Sewer during the construction period and whatever changes may be necessary as regards relocation, etc. These plans must be approved by me before the Joint Trunk Sewer can be interfered with.

" 'The writer further considers it desirable that in making so important a change in the sewer at this point the depression in the sewer on Union Avenue due to the abandoning of the siphon should be eliminated. Mr. Casey states that for the needs of Irvington it is necessary to lay the new 12-inch sanitary sewer on Lyons Avenue at such a depth that the sanitary sewer on Union Avenue south of Lyons Avenue can enter and the depression be eliminated. A connection for this purpose therefore should be laid under the 96-inch storm drain. Relaying the sewer on Lyons Avenue for a distance of 250 feet and the additional work to be

performed as outlined herein should be paid for by the Joint Meeting and not by Irvington.

" 'Neither the Joint Meeting nor its Engineer desires to interfere in the least with Irvington's local sewerage system or other municipal improvements, but they must insist that, when any municipality wishes to reconstruct or relay a portion of the Joint Trunk Sewer system, definite plans be furnished showing the extent of the proposed work and the manner in which it is to be carried out as to material and workmanship, and these must be approved before actual construction is commenced thereon.

" 'Trusting that I have clearly stated the facts and have made plain the position of the Joint Meeting in this matter, I am,

" 'Yours very truly,

" 'ALEXANDER POTTER.'

" 'COUNTY OF ESSEX,
" 'NEW JERSEY,
" 'OFFICE OF COUNTY ENGINEER.
" 'Court House, Newark.

" 'January 9, 1916.

" 'To the Mayor and Town Council,
" 'Irvington New Jersey:

" 'Gentlemen:—

" 'In planning the storm water drain in Lyons Avenue, between the County Bridge, near Lincoln Place, and Ball Street, it was advisable and necessary to relocate a short section of the Joint Trunk Sewer to avoid building the storm drain either across or over the joint sewer. This was fully anticipated by your Town Engineer, Mr. Casey, and myself, at the time plans were under process of preparation and we had all the facts concerning depth, location and sizes of sewer mains and other public utilities which are located within the limits of Lyons Avenue.

" 'The necessity for changing this short section of the joint sewer is due to the depth at which it was necessary to place the new storm water drain and also due to the fact that the Joint Trunk Sewer at Union Avenue was well over towards the northerly curb, which did not leave sufficient room between the curb and the joint sewer to locate the proposed storm drain. This is not an unusual condition where a system of sewers have been established for a number of years and where physical changes in the street lines have been made by the Governing Body.

" 'There are no engineering difficulties of any kind to be encountered in the relocation of this short section of the joint sewer, nor is the work in any way complicated. The plans prepared, and which are the same which Mr. Potter, Engineer for the Joint Trunk Sewer, has accepted and in no wise changed, re-

quires the relocating of about 250 feet of joint sewer, by shifting the same southerly at Union Avenue to a point somewhat south of the center line of Lyons Avenue. The relocated line is for the section about 125 feet west of Union Avenue where it intersects the existing sewer, and also for about 125 feet east of Union Avenue where it again intersects the existing sewer. At either terminus of this section a manhole will be built over the newly created changes in line, in the line of the trunk sewer.

" 'The points raised by the Engineer for the Joint Trunk Sewer have been carefully studied by myself. The matter of carrying on the work of the relocation of this section of Joint Trunk Sewer and of the method to be followed by the contractor in caring for the sewage flowing during the actual changes, is of minor importance to that of securing a direct line of sufficient gradient which will be entirely outside of the proposed storm drain. This we have accomplished in adopting the plan of building an 18-inch line for the relocated portion, in place of the 15-inch line, which exists at the present time.

" 'The location of the storm drain and the relocation of the trunk sewer is one which is entirely in the hands of the Town of Irvington, as there is nothing to prevent the Town from building any of the utilities in close proximity with the trunk sewer, provided proper precaution is taken to adequately safeguard the trunk sewer from any damages. Inasmuch as the Town of Irvington is most vitally interested in retaining the efficiency of the joint sewer at this location, I believe it will be deemed by all that nothing has been done which can in any way be construed as improper action on the part of your Engineers.

" 'The County of Essex is interested in this proposition to the extent of several thousand dollars, besides being also desirous of securing the completion of this work by the Town in Lyons Avenue as early as possible, so that the actual construction of the new pavement on this Avenue may be gotten under way in the Spring without any undue hindrance.

" 'Your Engineers, therefore, having sufficiently planned to take care of the joint sewer in an efficient and proper manner, had no hesitancy in directing the contractor to proceed along the lines as already planned and which, as above stated, have been accepted by the Engineer of the Joint Meeting.

" 'I take issue with the Engineer also in his statement that the Town Engineer of Irvington had made an error in establishing the grade for the relocation of the joint sewer, as the difference in elevation between the points mentioned in the Engineer's report is only .19 of a foot, and is to all intents and purposes immaterial.

" 'The question raised in the report of the Engineer of the Joint Meeting regarding the possibility of discharging into the

Elizabeth River, is one which has never been considered or contemplated by your Engineers and should not, therefore, enter into this report.

" 'The requirement stated by the Engineer of the Joint Meeting that the difference between the center line of the sanitary sewer and the curb should not be less than 19 feet 6 inches and that the exterior wall of the storm sewer shall be laid so as to have not less than 8 feet between the sanitary sewer and the side of wall, is a requirement which is immaterial, providing proper precaution is taken to safeguard the trunk sewer line.

" 'If in building the storm sewer it shall be deemed advisable to consider constructing the storm sewer nearer the trunk line than 8 feet, the work will be carried on on such line, giving attention to whatever requirements are necessary to protect the interests of all the municipalities interested in the Joint Trunk Sewer.

" 'Respectfully submitted,

" 'FRED. A. REIMER,

" 'Consulting Engineer.'

" 'DIRECTOR OF STREETS AND PUBLIC IMPROVEMENTS.

" 'Mr. H. J. Stanley,

" 'Commissioner Streets and Public Improvements,

" 'Irvington, N. J.:

" 'January 19, 1916.

" 'Dear Sir:—

" 'As you directed, I examined the report of Mr. Alexander Potter in regard to the changing of the line of the Joint Trunk Sewer on Lyons Avenue and beg to submit the following report.

" 'While the facts as presented in Mr. Potter's letter are in the main correct, they are presented in a manner to lead one not familiar with the conditions as they actually exist to a wrong conclusion. It would appear from Mr. Potter's report that his office had taken the initiative in this matter, but as a matter of fact this office tried on Thursday, Friday and Saturday following the award of the contract to get in touch with Mr. Potter but found it was impossible. Saturday I made an appointment with Mr. Potter's assistant, Mr. Beyer, and had a consultation with him Saturday afternoon. Mr. Beyer said he had authority to act in Mr. Potter's absence, and after going over the sketch I submitted to him, said he saw no reason why the work of changing the line of the sewer could not go ahead providing we had a clearance of 19 or 20 feet between the curb line and the center of the Joint Trunk Sewer. I made measurements that same night and found a minimum clearance of nineteen feet six inches. I agreed with Mr. Beyer to furnish him with further data regarding the Elizabeth River crossing and the old abandoned siphon line. Mr. Beyer's telephone conversation with Mr. Speir I did not listen to, considering it none of my business.

"'Mr. Potter says in his report that the work was ordered stopped on Saturday. On the contrary, Mr. Beyer's statement certainly led me to believe he had no objection to the work proceeding providing we had a proper clearance. Nothing was said about stopping work until Mr. Potter came to Irvington on Tuesday.

"'The report of Mr. Potter would also lead one to believe that we were relaying the Joint Trunk Sewer. Except where the contractor broke the pipe accidentally with his steam shovel nothing has been touched on the joint sewer. The pipe that the contractor broke was cleaned out and covered with planks. The stone discovered by the inspector probably found its way under the planks. The error in the elevation of the sewer due to debris in the pipe is very slight and has practically no effect on the grade, being really the transfer on the drop in the manhole in Union Avenue to the new manhole. The principal reason for substituting an eighteen-inch pipe all the way through was to give a straight grade and eliminate the construction of one manhole, thereby effecting a saving of $27.50.

"'Everything possible was done to help Mr. Potter in this matter.

"'Very truly yours,

"'I. J. Casey, Jr.,

"'Town Engineer.'

"I have given careful consideration to all of the statements made by Messrs. Reimer and Casey, and further consideration of all of the facts makes it impossible for me to modify in any degree the statements made in my report of January 14th.

"The crux of the whole discussion perhaps is summarized in the letter of Mr. Reimer, in which he says that the matter of the location of the storm drain *and the relocation of the joint sewer is one which is entirely in the hands of the Town of Irvington.* It is upon this proposition, which is diametrically at variance with the Rules and Regulations of the Joint Trunk Sewer adopted years ago, that as Engineer of the Joint Trunk Sewer I most strongly dissent.

"The Joint Trunk Sewer was constructed and built by the joint municipalities and therefore it is fitting and proper that no change whatsoever can be made in the Joint Trunk Sewer without the consent and co-operation of the joint municipalities. The criticisms in my report of January 14th were set down at length not so much because of their magnitude but as showing the need of co-operation on the part of the joint municipalities in any interference with or change of plan on any part of the Joint Trunk Sewer.

"That this matter is important is emphasized by another incident which has come to our attention since making the report

of January 14th. Without conferring with either the Engineer or the Inspector of the Joint Trunk Sewer, Irvington has made a sewer connection at Lenox and Madison Avenues with one of the manholes on the Joint Trunk Sewer, and in order to save a slight expense that would be necessary to conduct the sewer flow into the bottom of the joint sewer manhole, the lateral has been brought into the manhole four feet above the grade of the joint sewer, and when this lateral sewer is in full operation the flow therefrom will prevent an inspection of the Joint Trunk Sewer at this manhole unless the inspector is provided with a rubber coat and is willing to accept a shower bath of sewage during the time that is required to make such inspection or repairs at this manhole.

"The experience recently had in Millburn Township also emphasizes the importance of Joint Trunk Sewer control. A connection with the Joint Trunk Sewer made by a contractor without notification to your Engineer or to the Inspector as to the time when this connection would be made, resulted in such an improper connection as to create a contribution to the sewer in storm times of an amount equal to a fifth of the total of South Orange Township's capacity secured from Millburn.

"I would recommend that the Rules and Regulations of the Joint Trunk Sewer adopted shortly after the sewer was put into operation, be transmitted to the various municipalities. These Rules and Regulations are entirely at variance with the conclusion reached by Irvington's consulting engineer.

"I would also suggest the passage of a resolution worded about as follows, which I believe will fairly meet the situation which has arisen in Irvington:

"Whereas, A number of instances have recently been brought to the attention of the Joint Meeting where improper connections have been made by the individual municipalities having rights in the Joint Trunk Sewer, which improper connections have interfered with the proper functioning of the sewer.

"Be it Resolved, That the municipal officers of each municipality having direct or indirect rights and privileges in the Joint Trunk Sewer be notified to submit plans of any proposed connection with the Joint Trunk Sewer well in advance of actual construction for the approval of the Chief Engineer of the Joint Trunk Sewer, as provided for in the Rules and Regulations of the Joint Meeting; and

"Be it further Resolved, That these municipal officers be respectfully requested to read carefully the Rules and Regulations of the Joint Meeting governing the use of the Joint Trunk Sewer, especially to note that these Rules and Regulations provide that all such changes and connections are specifically required to be made in the presence of the Engineer or of the Inspector of the Joint Trunk Sewer.

"Re. Causes of Excess Flow in Irvington and Newark Districts.

"I have carefully read the reply of Messrs. Rankin and Casey to my criticism of their report upon the causes of excess flow in the Irvington and Newark districts, and I am satisfied that the facts and opinions brought out in this discussion will be valuable to the Joint Meeting. This reply is herewith presented:

" 'Joint Meeting:

" 'Gentlemen:—

" 'While we are satisfied that the criticism of our report of September 16, 1915, by your Engineer, Mr. Potter, on December 16th, was made in a friendly spirit, we feel that the impression left on the minds of the Joint Meeting from the reading of this latter report would be that our findings were incorrect and of little value. We would therefore in an equally friendly spirit respectfully ask permission to reply to some of the statements there made.

" 'While Mr. Potter agrees with our conclusions that all roof and yard drains be discontinued, and that all manholes be so arranged as to exclude rain water, and that the Castles flow be eliminated, he takes exception to our statement that the roof water is a very small percentage of the whole, and attempts to prove that this is the main cause of the trouble by the figures given in Table 2 on page 22 of the Minutes.

" 'In the first place, Mr. Potter assumes a roof area about 10% in excess of that found by us. Our inspection was very carefully made, as shown by the fact that we reported many more roofs connected than were reported in any former inspection. On the other hand, many roofs noted as connected have since been found to run into cesspools or drains not connected with the Joint Sewer, so we feel that our area of 308,830 square feet should stand.

" 'It is, of course, well known that the shorter the period of time under consideration, the greater intensity of rainfall, and consequently (sewage and normal ground water being a constant quantity) the greater the percentage of roof and surface water composing the flow in the sewer. While we may have erred in taking as our smallest unit the flow per day in the maximum week, in our opinion Mr. Potter errs equally in the other direction, for the figures given in column C of the table are obtained by multiplying our roof water area plus 10% by the average hourly flow, by 24 hours. In other words, taking the storm of July 2nd, for example, it would appear from the table that 3,020,000 gallons per day of roof water entered the sewer, whereas the total rainfall on that day was only 2.60 inches or .217 feet, which, multiplied by 308,830, equals 502,620 gallons per day, or only one-sixth of Mr. Potter's figures. As a matter of fact, however, even these figures are too large for the reason that it is rare

for storms of as great intensity as those under consideration to extend over so large an area.

" 'For example, the Newark rain gauge records the storm of July 1st and 2nd as 2.79 inches. From the Government reports we find the record at the Newark High School 2.81, South Orange 1.96 and Elizabeth 2.42, or an average of 2.49. In the storm of August 29th, the figures are, in the same order, 1.38, 1.30, 1.31 and .48, an average of 1.12, and consequently even the latter figures, 502,620 gallons, are too high.

" 'If now we go still further and take the hourly flow, Mr. Potter's figures would again be too large because the time required for the water to run from the extreme northeasterly end of the Newark system to the southerly line of Irvington is about two (2) hours and a quarter. The most intense storm recorded on the Newark gauge occurred on August 29th, when .85 of an inch fell in one hour, but in the two hours and fifteen minutes only 1.24 inches fell, or an average of .55 inches per hour, which would be equal to 34% of the allotted capacity instead of 53% as given by Mr. Potter for the most severe storm. In the storm of July 11-12 mentioned by Mr. Potter as the most severe storm this point is still more in evidence as the entire fall of .96 inches fell within the two hours and fifteen minutes, or an average of only .43 inches per hour.

" 'As shown in our report, for the average day roof water comprises four-tenths of 1% of the total flow; for the maximum week 1.4% of the total flow. The maximum flow per day and per hour for 1914 are not given in any of Mr. Potter's reports, but in his report of February 26, 1914, they may be obtained from the figures in Table 3 for the year 1913, and amount to 11,200,000 gallons for the maximum day and 12,020,000 gallons for the maximum hour. The total flow for the two years does not differ materially, so taking these figures for 1914 we would obtain the results shown in the following table:

FLOW IN 1,000 GALLONS PER DAY.

	Average Daily.	Per Cent. of Total.	Maximum Weekly.	Per Cent. of Total.	Maximum Daily.	Per Cent. of Total.	Maximum Hourly.	Per Cent. of Total.
Additional leakage through ground and manhole covers	891	17	4820	56	4978	44	4152	35
Roof water	24	.4	118	1.4	503	4.5	2611	22

" 'It is evident that the figures for the total maximum hourly flow and probably also for the maximum daily flow are much too low, but even as they stand they show that our contention that the "main cause of the trouble is the rain water leakage either through the ground or through manhole covers, and that the roof water is a very small percentage of the whole" is correct.

"'In regard to the final point that these leaders prevent the silting up of the joints—the sewer would be under a head, as shown above, if there were no leaders whatever connected with it, and hence the pressure at such times would be from the inside as it is now.

"'We do not wish to be understood as approving of the admission of roof water to the sewer. On the contrary, we are doing our best to have all leaders cut off, 36 having been discontinued in Newark since our inspection, but we do feel that in justice to ourselves Mr. Potter's criticism of our report should not be allowed to stand without this answer.

"'Respectfully,

"'I. J. Casey, Jr.,

"'Edward S. Rankin.'

"Since the inception of the Joint Trunk Sewer your Engineer has pointed out from time to time the danger of permitting roof leaders to be connected with the sewer, and has consistently urged the elimination of roof water, and, as far as possible, cellar drainage. With the exception of Irvington and Newark, this rule of the Joint Meeting has been substantially complied with. Because of the difficulty which these two cities labor under in preventing water from roof leaders entering into the Joint Trunk Sewers and laterals (I refer to the fact that it is unlawful to discharge roof leaders in Newark upon the surface of the ground and that large sections of Irvington follow closely Newark's practice) I recommended that the subject be given special consideration by the Newark and Irvington authorities, and the report of Messrs. Rankin and Casey was the direct and specific outcome of this recommendation of your Engineer.

"When as a result of this investigation by the Engineers of the two municipalities they actually state that 'the roof water is a very small percentage of the whole' and from their diagrams they show it to be from one to two per cent. of the whole, I thought it essential to show as clearly as possible that during the limited periods when the roof water affects the sewer most seriously the percentage of flow therefrom is very many times greater than that indicated by them. As stated in my former report, I do not dispute the accuracy of their diagrams and statements as far as they go, but I do not accept the correctness of their conclusions when they say that while they may have erred in taking as their smallest unit the average daily flow during a maximum week, I erred in the other direction by taking the flow during an hour of maximum rainfall, for if my contention is true (and no single fact has been pointed out to disprove its accuracy), namely, that the house connection is the greatest single source of excess flow and that the roof leaders aggravate this condition of excess flow,

then I take it that the true effect of this roof water contribution shall be measured by the relation between the rain water flow during the time of greatest intensity, even if only ten minutes, and the normal flow through the house connection during a similar period.

"Under these conditions the percentage of roof water flow to the sewer flow is not from one to two per cent. of the normal flow, as pointed out in Messrs. Rankin and Casey's first report, nor fifty per cent., nor one hundred per cent., but amounts to many hundred per cent. of the normal flow of those sewers which, in my judgment, are more seriously affected by the admission of the rain water. I refer, as stated in my former report, to the house connection and the street lateral in the immediate vicinity of such house connection.

"The fallacy of expressing rain water flows in sanitary sewers in percentages of average daily flow during a week of maximum flow, as is done in Messrs. Rankin and Casey's report, is perhaps most forcibly shown when we consider that in designing storm sewers they are destined to take care of one-half of the entire yearly rainfall in one day when expressed in the same terms as the rainfall is expressed in the diagram presented by Messrs. Rankin and Casey, and the logic of showing the effect of the rainfall upon the house connections as indicated in the report of the writer can be more readily accepted when we consider that a water main or a sewer designed to resist a certain pressure does not require an excessive pressure to be applied during the average day, but even a momentary application of a too excessive pressure or volume is sufficient to injure the structure so that during the rest of the day, or the rest of the week, or the rest of the year, it will fail to function properly.

"So far as such sewers as are herein described are concerned, the conditions of internal pressure are as stated in my report.

"Messrs. Rankin and Casey state that I took a ten per cent. greater roof area than given in their report. The figures are as follows:

Rankin & Casey	308,830
Potter	320,746

"It will be seen that my figure is only four per cent. in excess of theirs. It was through an oversight that I did not take a much larger percentage. I thought myself justified in doing so after reading the following from Messrs. Rankin & Casey's report:

"'It is very possible that some roofs have been overlooked in the investigation and it is more than probable that many cellars are connected which may receive drainage from yards, thus increasing the flow from this source, but even double the area estimated would not reduce the maximum weekly flow in either case below the allotted capacity.'

"Messrs. Rankin and Casey evidently overlooked this statement in their first report, otherwise they would not have considered my four per cent. increase worthy of special comment.

"Summarizing this whole discussion, Messrs. Rankin and Casey in their report commented on all contributory sources of sewage flow in terms of average flows. Reviewing their report at the request of the Joint Meeting, I tried to amplify their report by bringing out the point not touched upon by them, that the sudden admission of large volumes of water at concentrated points was damaging to the sewer even though these large volumes formed a small percentage of the total flow in the sewer. If I can succeed in impressing those interested with the effect of excessive flows through short periods, the discussion to and fro will have been of material service.

Re. Venturi Meter for West Orange-South Orange Line.

"At the last meeting of the Joint Meeting I was authorized to construct a Venturi meter on the West Orange-South Orange line. I have had a number of conferences with the Builders' Iron Foundry in reference to that special type of irrigation meter which it is proposed to install, but have no definite report yet to make concerning this installation. However, the accurate automatic gauging of sewers of relatively small diameter is such an important question that the time spent in discussing this matter will not only be of value to the Joint Meeting, but to other municipalities having like problems to solve.

"I present herewith bill of Korff Bros. amounting to $32.00 for the printing of the maps incorporated in the printed Minutes.

"Respectfully submitted,

"Alexander Potter."

On motion of Dr. Campbell, the Secretary was directed to send a copy of the resolution recommended by Mr. Potter to each municipality.

The Secretary presented the following correspondence regarding a connection made with the Joint Outlet Sewer in the Township of Millburn by the Township of South Orange:

"January 14, 1916.

"Mr. Francis Speir, Jr.,
"52 Wall Street,
"New York City:

"My Dear Mr. Speir:—

"For your information I am sending you copies of correspondence bearing on the failure of the contractor to notify Mr. Sandford, as instructed, so that an inspection could be made of

the connection of a sanitary sewer in South Orange Township to the Joint Trunk Sewer on Millburn Avenue. On examination this connection was found to be defective, as reported by Mr. Sandford.

"This is another instance which emphasizes the great importance of having the Joint Meeting take a positive stand to have all connections to the Joint Trunk Sewer examined and passed upon by the Inspector of the Joint Trunk Sewer before they are covered up.

"Yours very truly,
"ALEXANDER POTTER."

"THE TOWNSHIP OF SOUTH ORANGE,
"In the County of Essex.
"Maplewood, N. J., January 6, 1916.

"Mr. Corey W. Sandford,
"Superintendent Joint Trunk Sewer,
"27 Union Place,
"Irvington, N. J.:

"Dear Sir:—

"This is to acknowledge receipt of your letter of the 5th inst., and to express my regret that Contractor Mauriello should have disregarded the orders of yourself and our engineer, Mr. Halsey, as reported therein.

"Mr. Mauriello is one of the most satisfactory contractors working for our Township, and I cannot understand his action in this instance, except it be due to a misunderstanding of the English language. Whatever the cause, however, I have directed the engineer to order the work in question fully uncovered by the contractor for your inspection, and, if you so direct, a complete disconnection made and the work done over under your supervision.

"Trusting that you will overlook this dereliction on the part of our servant, the contractor, and accept the adjustment offered, I am,

"Very truly yours,
"F. O. RUNYON,
"Chairman."

"Office of
"EDMUND R. HALSEY,
"CIVIL ENGINEER AND SURVEYOR,
"Lawyer's Building,
"164 Market Street.
"Newark, N. J., January 6, 1916.

"Mr. Corey W. Sandford,
"27 Union Place,
"Irvington, N. J.:

"Dear Sir:—

"Will you please arrange with Mr. Mauriello the time when

you can make a thorough examination and investigation of the connection with the Joint Trunk Sewer?

"Mr. Mauriello was notified to get in touch with you and do this work under your directions. He informed me that he had explained the matter to you and that satisfactory arrangements had been made.

"I was not aware that he contemplated breaking into the Joint Trunk Sewer on New Year's Day, or I would have been there myself, but I fully expected you to be on the job when the connection was made, as Mr. Byrd gave me explicit directions to see that you were notified, so that you could be on hand to inspect this work.

"Any thing that you wish done to comply with the wishes of the Joint Trunk Sewer, or yourself, in the matter of this connection, will be cheerfully done.

"I regret this action very much, particularly on account of Mr. Byrd being so explicit in his statement that he wished to have you notified.

"Very truly yours,
"EDMUND R. HALSEY,
"Township Engineer."

"COREY W. SANDFORD,
"CHIEF INSPECTOR,
"Joint Trunk Sewer,
"27 Union Place, Irvington, N. J.
"Jan. 11, 1916.

"Mr. Alexander Potter,
"New York, N. Y.:

"Dear Sir:—

"Acting under the request of yourself and Mr. F. O. Runyon, Chairman of the Township Committee of South Orange Township, I arranged with the contractor, Mr. Mauriello, to uncover connection made to the Joint Trunk Sewer on Millburn Avenue at Roland Avenue.

"I beg to report that the contractor left a very nice appearing job on top of pipe, but following your instructions I insisted on seeing the connection in its entirety. I ordered the contractor to excavate completely around the connection and on scraping the earth away from under the pipe I found that the sewage from the Joint Trunk Sewer came through the poor connection into the trench. The job was then repaired, first by caulking with jute, then concrete mixed in the proportion of one part each of blue stone chips, sand and cement well pounded in around the pipe from outside of the manhole. Inside the manhole we gave the sills a cement coating. You may judge of the careless way in which this connection was made by noting the large quantity of

material required for repairs, namely, one and one-half bags of cement, a like amount of sand and blue stone chips, and a number of half-bricks.

"The open space between the pipe and the manhole was so large that during the wet season when the river is high enough water could enter the sewer at this connection to utilize from one-fifth to one-quarter of South Orange Township's capacity purchased from Millburn.

"Would it not be well for you to take up with the engineers of the various municipalities the importance of notifying you promptly when they are ready to make connections with the Joint Trunk Sewer system so that I can arrange to be present when such connections are to be made? Your instructions to me have always been to lay aside at once all routine work so as not to delay such connections, but this cannot be done if I am not notified, as it is impossible for me to police the entire Joint Trunk Sewer system every day.

"The condition on Lyons Avenue in Irvington was noticed by me so soon simply because it is near my own home.

"Yours truly,

"Corey W. Sandford,

"Inspector."

The report of the Treasurer was read and on motion received and ordered filed:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on the 16th day of December, 1915, the date of his last report, he had on deposit in the Orange National Bank, the sum of Two Thousand and Ninety-nine Dollars and Twenty-nine Cents ($2099.29), with two warrants outstanding, to wit: Warrant 2071 for Two Dollars and Fifty Cents ($2.50), and warrant 2207 for Five Dollars ($5.), so that the total amount of cash on hand on that date amounted to Two Thousand and Ninety-one Dollars and Seventy-nine Cents ($2091.79).

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of Fifteen Hundred Dollars ($1500.), and has been credited with Five Dollars and Twenty-five Cents ($5.25) interest, so that with the balance above referred to, he had cash on hand amounting to Three Thousand Five Hundred and Ninety-seven Dollars and Four Cents ($3597.04), as shown on Schedule 1 hereunto annexed.

"The Treasurer further reports that since the date of his last report he has signed warrants, as shown on Schedule 2 hereunto

annexed, amounting to One Thousand Three Hundred and Fifty-nine Dollars and Eighty-three Cents ($1359.83), so that the total amount of cash on hand at the date of this report amounts to Two Thousand Two Hundred and Thirty-seven Dollars and Twenty-one Cents ($2237.21); there still remain outstanding, however, warrant 2071 for Two Dollars and Fifty Cents ($2.50) and warrant 2207 for Five Dollars ($5.), so that he now has on deposit in the Orange National Bank the sum of Two Thousand Two Hundred and Forty-four Dollars and Seventy-one Cents ($2244.71).

"All of which is respectfully submitted this Tenth day of February, Nineteen Hundred and Sixteen.

"S. H. Rollinson,
"Treasurer."

Schedule 1.

1915.			
Dec. 16	Balance	$2,091.79	
" 20	South Orange	250.00	
" 25	Summit	250.00	
" 27	Newark	500.00	
" 29	Irvington	250.00	
1916.			
Jan. 24	Millburn	250.00	
	Interest	5.25	
	Cash on hand		$3,597.04

Schedule 2.

1915.		
Dec. 18	Adrian Riker	$ 250.00
" 17	American Surety Co.	20.00
" 17	N. Y. Telephone Co.	17.71
" 17	C. Wolber Co.	10.75
" 17	Francis Speir	15.00
" 17	H. J. Stanley	15.00
" 17	J. G. D. Knight	15.00
" 17	William Byrd	15.00
" 17	G. F. Seymour, Jr.	15.00
" 17	A. R. Denman	15.00
" 17	J. J. Kenney	15.00
" 17	C. W. Sandford	8.46
" 17	J. J. Keating	.70
" 17	E. S. Rankin	8.33
" 17	E. S. Rankin	58.00
" 30	Alexander Potter	83.33
" 30	S. H. Rollinson	62.50

" 30	John J. Keating	100.00	
" 30	C. W. Sandford	170.00	
" 30	Edward S. Rankin	35.16	
" 30	Earle & Dougherty	41.40	
1916.			
Jan. 31	Alexander Potter	83.33	
" 31	Corey W. Sandford	170.00	
" 31	John J. Keating	100.00	
" 31	Edward S. Rankin	35.16	
			1,359.83
	Balance		$2,237.21

Mr. Denman reported on the reprinting of the minutes, the first volume of which was presented. It was moved that the Chairman and Secretary prepare a list of those former members of the Joint Meeting who in the opinion of the Chairman would care to have a copy of the minutes, and that the Secretary communicate with them to ascertain their wishes and that he be instructed to send a copy to such former members as may desire to receive them. Also that he be directed to send one copy to the Clerk of each municipality and two copies to the Public Library of each municipality. Carried.

Mr. Stanley presented the following resolution, which, on roll call, was carried, all voting aye:

"Whereas, In accordance with the provisions of Chapter 146 of the State Laws of 1905, the Joint Meeting shall, before the first day of April in each year, make an estimate of and determine upon the probable cost and expense of maintaining and operating the Joint Sewer for the year beginning on said first day of April, and shall cause the same to be certified by the Secretary of the Joint Meeting to each of the contracting municipalities;

"Therefore, be it Resolved, That the Joint Meeting hereby estimates and determines that the probable expense of maintaining and operating the Joint Sewer from the first of April, 1916, to the first of April, 1917, is the sum of $7,000.00.

"And be it further Resolved, That the Secretary be and he is hereby directed to forward a copy of this resolution to the governing body of each of the contracting municipalities."

It was moved and seconded that in accordance with the recommendation of Mr. Potter, the sewer on Union Avenue, Irvington, between Lyons Avenue and the brook, be rebuilt at the ex-

pense of the Joint Meeting, and under the supervision of the Engineer and Inspector of the Joint Meeting, at the estimated cost of $300.00, and that the representative from Irvington be requested to obtain bids for the work and refer the same to Mr. Potter with power. On roll call all municipalities voted aye.

Moved, that the matter of removing the abandoned syphon line under the Elizabeth River near Lyons Avenue be referred to Mr. Stanley, to report at the next meeting. Carried.

The following resolution was presented, and on roll call was carried, all municipalities voting aye:

"Resolved, That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750.00, which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-seventh, or one-seventh for Newark and one-seventh for Vailsburg), and further, that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"Resolved, That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 10th day of February, 1916.

"This is the assessment for the first quarter of 1916."

The matter of the reapportionment of the cost of maintenance was brought up. Mr. Pringle stated that the new contract had been passed by Summit and had been sent to West Orange.

Mr. Seymour reported that a bill had been introduced in the State Legislature which, if passed, would take the control of the Joint Sewer out of the hands of the Joint Meeting and place it under the control of the Public Utilities Commission. On motion a Committee on Legislation was appointed, consisting of the Chairman, Counsel, Engineer and Messrs. Seymour and Denman, to ascertain, as far as they can, what legislation may be proposed, that in their judgment is calculated to affect the interests of the Joint Outlet Sewer and the Joint Meeting and to take such measures as in their judgment is best calculated to keep the Joint Meeting advised, with the view to following up the same; and that the Secretary of the Joint Meeting order each year a file of the Assembly and Senate Bills and keep same on file. Carried.

The following bills were read, approved and, on roll call being taken, ordered paid, when properly audited, all voting aye.

The Chair appointed as Auditing Committee Messrs. Campbell, Woodruff and Seymour.

Alexander Potter, December salary	$ 83.33
S. H. Rollinson, Oct., Nov., Dec. salary	62.50
C. W. Sandford, Dec. salary and horse	170.00
John J. Keating, Dec. salary	100.00
E. S. Rankin, Dec. salary and office	35.16
Alexander Potter, Jan. salary	83.33
Earle & Dougherty, balance on contract	41.40
C. W. Sandford, Jan. salary and horse	170.00
John J. Keating, Jan. salary	100.00
E. S. Rankin, Jan. salary and office	36.16
Baker Printing Co., binder for minutes	2.40
Weibezahl Print, printing minutes Sept. 16 and Dec. 16	47.44
Weibezahl Print, reprinting Volume 1, old Minutes	382.02
Weibezahl Print, binding Vol. 1	21.25
Wm. B. Morningstern, indexing Vol. 1	50.00
B. E. Larney, care of Rahway River crossing	10.00
C. W. Sandford, expense account	7.78
John J. Keating, expense account	1.99
E. S. Rankin, expense account	3.66
E. S. Rankin, Sec., labor account	14.00
N. Y. Telephone Co.	19.17
Korff Bros. Co., maps of Joint Sewer	32.00

Mr. Casey, on being granted permission to speak, stated that the break in the Joint Outlet pipe on Lyons Avenue referred to in Mr. Potter's report was caused by the steam shovel and that the pipe had been immediately cleaned out, as otherwise it would have been entirely stopped.

Adjourned at 10:15 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of April 20, 1916.

A regular meeting of the Joint Meeting was held on the above date at the South Orange Village Hall, at 8 P. M.

Present: Francis Speir, Chairman; H. J. Stanley, Irvington; Dr. W. Campbell, Millburn; A. R. Denman, Newark; G. F. Seymour, Jr., South Orange; E. G. Pringle, Summit, and C. O. Woodruff, West Orange. The Engineer, Treasurer and Inspectors, together with Engineer Casey of Irvington, were also present.

The Secretary called attention to an error in the printed minutes of the meeting of February 10. On page 53, line 14, 36.16 should be 35.16. With this correction the minutes were approved as printed.

Engineer Potter read the following report, which was received and ordered placed on file:

"April 20, 1916.

"To the Joint Meeting:

"Gentlemen:—I submit herewith the yearly summary of the contributing flows from the various municipalities, tabulated in accordance with the arrangement followed in my previous reports.

"This is the first year that the contributing flow from South Orange Township chargeable against Millburn's capacity has been metered. At the last meeting I was not in possession of the flows from South Orange Township, and therefore delayed submitting a report on the contributing flows in order to have it complete. The flows for the year 1915 are as follows:

TABLE No. 1.

Average Daily Contributing Flow to the Joint Trunk Sewer by the Various Municipalities for the Year 1915.

(Expressed in thousands of gallons per day.)

	Newark.	Irvington.	So. Orange.	W. Orange.	Summit.	Millburn.	Total.
Daily flow	2,725	2,160	1,334	2,175	1,265	995	10,654
Allotted capacity	4,263	3,373	3,421	3,528	4,227	2,188	21,000
% of capacity	63.9	64.0	39.0	61.6	29.9	45.5	50.7

TABLE No. 2.

Maximum Weekly Flow to the Joint Trunk Sewer by the Various Municipalities for the Year 1915.

(Expressed in thousands of gallons per day.)

	Newark.	Irvington.	So. Orange.	W. Orange.	Summit.	Millburn.
Flow	5,007	3,373	2,726	3,528	2,550	1,920
Allotted capacity	4,263	3,373	3,421	3,528	4,227	2,188
% of capacity	117.6	100.0	79.6	100.0	60.3	87.7
Ratio of average flow to maximum weekly flow	1.84	1.56	2.04	1.62	2.02	1.93

"In the matter of the reconstruction of a short section of the Joint Trunk Sewer on Union Avenue, I have received a price from Mr. John Dorer, of Irvington, of $1.50 per running foot for relaying approximately 230 feet of 10-inch vitrified pipe, including one length of 10-inch cast iron pipe and shifting all existing connections, to do away with the depression now existing on the Union Avenue sewer due to the abandonment of the old Elizabeth River siphon and the diverting of the flow of the Joint Trunk Sewer to Lyons Avenue. I recommend that Mr. Dorer, who is now engaged in laying a storm sewer on Lyons Avenue, be authorized by the Joint Meeting to proceed with this reconstruction work at the above price of $1.50 per foot.

"In reference to the cost of repairing the break in the sewer on South Orange Avenue which occurred last fall, I wish to call the attention of the Joint Meeting to the fact that the question, whether this should be a general charge or whether it should be divided among the municipalities using this branch, has never been settled.

"Acting upon your instructions I ordered from the Builders' Iron Foundry the Venturi meter authorized to be installed on the West Orange-South Orange line. This meter cost $240.00. A standard type of 22-inch Venturi meter installation suitable for sewerage work would cost $1200 or $1300 for the meter alone. I had numerous conferences with the engineers of the Builders' Iron Foundry, and it was agreed between us that they could adapt, build and guarantee the accuracy of their irrigation type of meter for sewerage work, and estimated the cost thereof at $150.00. Because of a rise in the cost of materials and because of modifications necessary to better adapt the meter to a more accurate determination of the flow, they have increased this price to $240.00.

"Logically, this Venturi meter should be installed in South Orange Village at the West Orange boundary line where the present weir manhole is located. Unfortunately, Meadowbrook Lane does not extend beyond Montrose Avenue in South Orange Village. From there on the sewer is constructed across private property and is parallelled by the tracks of the electric road, which leaves very little room for carrying out the proposed construction. The construction problem is further complicated by the fact that the Joint Meeting controls for this section a permanent right of way of only five feet, within which it is impossible to construct the Venturi meter. Therefore, before construction work can be started arrangements must be made with abutting property owners for permission to construct the Venturi meter and all accessories on private property.

"In case such permission cannot be secured, I would recommend that the location of the meter be shifted west to Montrose Avenue and the meter be built between the existing manhole at the intersection of Meadowbrook Lane and Montrose Avenue and the northeast property line, a distance of 25 feet being available. The design as prepared is not suitable for this new location, as the space is limited. I have therefore prepared an alternate design to be used in case the Venturi meter is shifted to Montrose Avenue.

"I submit herewith plans for the proposed installation of the Venturi meter. In my preliminary report upon this matter I did not take into consideration the necessity of building a manhole above and below the meter so as to give access to the sewer close to the meter in case of any obstruction occurring therein. Neither did I estimate on the cost of the permanent by-pass around the meter. I now am of the opinion that these additions should be made, especially on the first one installed.

"My estimate of the cost of installing this meter, including the main control manhole, and the auxiliary manholes, including the permanent by-pass, but exclusive of the meter, is $625.00. If done by our own men, it might be possible to reduce the cost by eliminating contractor's profits, to $550.00, but I am of the opinion that the Commission would be better served by allowing this to go to contract, and I request permission to receive bids upon and let a contract for this work with the understanding that the total cost, exclusive of the meter, does not exceed $625.00.

"Respectfully submitted,

"Alexander Potter."

Mr. Potter also presented plans for the proposed Venturi meter on the West Orange-South Orange line.

Representative Stanley of Irvington presented the following report on the old siphon line, together with bid of John Dorer for rebuilding 200 feet of sewer on Union Avenue:

"Irvington, N. J., April 20, 1916.

"To the Joint Meeting:

"Gentlemen:—An the meeting of your Honorable Body on February 10th the matter of removing the abandoned siphon line under the Elizabeth River near Lyons Avenue was referred to me for a report. Herewith I submit a bid for the construction of a new ten-inch sewer in Union Avenue from the manhole at the siphon line north to the new twelve-inch sewer constructed by Irvington on Lyons Avenue.

"If this line is constructed I can see no reason why the siphon line should be still maintained. If it were to be used for overflow purposes this new line could not be constructed and the pocket in the Union Avenue sewer would still exist. It cannot be used for overflow purposes unless practically reconstructed, as it leaks throughout and is broken in one or two places, and in view of these facts this would, in my opinion, be a useless expense.

"While this line was being used temporarily by the Town of Irvington the pressure of the flow burst the top of the siphon line on the east bank of the river. It would be incurring an unnecessary expense to repair this manhole, and it seems to me the most practical thing to do would be to fill it up with earth.

"Though not familiar with the engineering facts, it appears to me that the Joint Meeting will never require the use of this right of way again, and as the Town of Irvington is constructing a large storm sewer which will eliminate the brook which parallels this right of way and increase the value of the land, this right of way might be disposed of to advantage after the storm sewer is complete.

"Respectfully submitted,

"H. J. Stanley."

"Irvington, N. J., Apr. 20, 1916.

"Mr. I. J. Casey,

"Town Engineer:

"Dear Sir:—I will agree to build 10-inch sewer in Union Avenue south of Lyons Avenue, including 12 feet of iron pipe and connecting houses now connected, according to your plans, for the sum of One dollar and fifty cents per lineal foot.

"Respectfully submitted,

"John Dorer."

On motion the report was received and filed.

Mr. Stanley moved that the bid of John Dorer be accepted and that he be instructed to proceed with the work in accordance with specifications prepared by Mr. Potter.

"On roll call the motion was carried, 6 ayes, no noes.

It was moved by Dr. Campbell that the action of the Engineer in purchasing the Venturi meter for $240 be approved. Motion carried, 6 ayes, no noes.

After some discussion as to location, it was moved that the Engineer be instructed to advertise for bids for the construction of a Venturi meter control chamber to be erected near the South Orange-West Orange line. On roll call motion carried, 6 ayes, no noes.

The question of its definite location was left to the Engineer and Mr. Seymour.

The Secretary reported that in accordance with instructions he had distributed 49 copies of the first volume of the reprinted minutes; one to each member and officer, one to each Town Clerk, and two to each Town Library and the State Library. Also to such of the former members of the Joint Meeting as had requested copies. He also reported progress on the second volume.

For the Committee on Legislation, Mr. Seymour reported that the proposed bill which it was feared might take the control of the Joint Sewer out of the hands of the Joint Meeting had been killed.

The report of the Treasurer was read and on motion received and filed:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—The Treasurer respectfully reports that on the Tenth day of February, Nineteen Hundred and Sixteen, the date of his last report, he had on deposit in the Orange National Bank the sum of Two Thousand Two Hundred and Forty-four Dollars and Seventy-one Cents ($2,244.71), with warrants 2071 for Two Dollars and Fifty Cents ($2.50) and 2207 for Five Dollars ($5.) outstanding, so that the total amount of cash on hand on that date amounted to Two Thousand Two Hundred and Thirty-seven Dollars and Twenty-one Cents ($2,237.21).

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of Two Thousand Dollars ($2,000), and has been credited with Eight Dollars and Seventy-four Cents ($8.74) interest, so that with the balance above referred to, he had cash on hand amounting to Four Thousand Two Hundred and Forty-five Dollars and Ninety-five Cents ($4,245.95), as shown on Schedule 1, hereunto annexed.

"The Treasurer further reports that since the date of his last report he has signed warrants, as shown on Schedule 2, hereunto annexed, amounting to One Thousand Four Hundred and Thirty-one Dollars and Thirty-one Cents ($1,431.31), so that the total amount of cash on hand at the date of this report amounts to Two Thousand Eight Hundred and Fourteen Dollars and Sixty-four Cents ($2,814.64). Warrant 2071 for Two Dollars and Fifty Cents ($2.50) and warrant 2207 for Five Dollars ($5.) are still outstanding, so that he now has on deposit in the Orange National Bank the sum of Two Thousand Eight Hundred and Twenty-two Dollars and Fourteen Cents ($2,822.14).

"All of which is respectfully submitted this Twentieth day of April, Nineteen Hundred and Sixteen.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1916.			
Feb. 10	Balance	$2,237.21	
" 10	West Orange	250.00	
" 21	Millburn	250.00	
" 21	South Orange	250.00	
Mar. 1	Irvington	250.00	
" 8	West Orange	250.00	
" 8	Summit	250.00	
" 4	Newark	500.00	
	Interest	8.74	
			$4,245.95

SCHEDULE 2.

1916.		
Feb. 18	Baker Printing Co.	$ 2.40
" 18	Weibezahl Print	47.44
" 18	" "	382.02
" 18	" "	21.25
" 18	William B. Morningstern	50.00
" 18	B. E. Larney	10.00
" 18	C. W. Sandford	7.78
" 18	John J. Keating	1.99
" 18	E. S. Rankin	3.66
" 18	E. S. Rankin, Sec'y	14.00
" 18	N. Y. Telephone Co.	19.17
" 18	Korff Bros.	32.00
" 25	Alexander Potter	83.37
" 25	Corey W. Sandford	170.00
" 25	John J. Keating	100.00
" 25	Edward S. Rankin	35.24
Mar. 30	Alexander Potter	83.33
" 30	S. H. Rollinson	62.50

"	30	C. W. Sandford	170.00	
"	30	J. J. Keating	100.00	
"	30	E. S. Rankin	35.16	
				1,431.31
		Balance		$2,814.64

The following bills were read and on motion ordered paid, after being approved by the Auditing Committee, 6 ayes, no noes:

Alexander Potter, February salary	$ 83.37
C. W. Sandford, February salary and horse	170.00
J. J. Keating, February salary	100.00
E. S. Rankin, February salary and office	35.16
Alexander Potter, March salary	83.33
S. H. Rollinson, Jan., Feb., Mar. salary	62.50
C. W. Sandford, March salary and horse	170.00
J. J. Keating, March salary	100.00
E. S. Rankin, March salary and office	35.16
Weibezahl Print, printing minutes	22.23
New York Telephone Co.	13.87
C. W. Sandford, expense account	3.00
E. S. Rankin, expense account	7.94
E. S. Rankin, Secretary, petty cash	4.00

Mr. Woodruff presented the new reapportionment contract signed by West Orange, which was then handed to Dr. Campbell for presentation to the Millburn authorities.

Meeting adjourned at 9:20 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 15, 1916.

ANNUAL MEETING.

The regular annual meeting of the Joint Meeting was held in the South Orange Village Hall on Thursday evening June 15th, at 8 o'clock.

Present: Mr. Francis Speir, Chairman; Messrs. A. R. Denman, Newark; H. J. Stanley, Irvington; G. F. Seymour, Jr., South Orange; C. O. Woodruff West Orange, and Dr. Wellington Campbell, Millburn. The Engineer, Treasurer and Inspectors and Engineer Casey of Irvington were also present.

The minutes of the last meeting were approved as printed.

Engineer Potter presented the following report, which on motion was received and ordered printed in the minutes.

"June 15, 1916.

"To the Joint Meeting:

"Gentlemen:—

"Acting upon instructions received at the last meeting, I have advertised for bids for the construction of a weir manhole for the purpose of determining the flow entering the Joint Trunk Sewer from West Orange. Bids for this work will be received to-night.

"Three alternative locations for this weir manhole have suggested themselves, one at the intersection of the Joint Trunk Sewer in Montrose Avenue, another directly at the South Orange-West Orange line, and the third about 250 feet north of this point, just immediately below the last connection of West Orange. The location at Montrose Avenue is difficult in that it will necessitate the destruction and reconstruction of a catch basin and a modification in the alignment of the storm sewer. The location at the town-line is objectionable for the reason that the property at this point is highly developed and planted with shrubs and trees, and it will be difficult in construction to keep on the fifteen-foot right of way. The upper location has no seriously objectionable features and has the added advantage of having the least depth of cover over the sewer at this point. I would recommend the construction of the weir chamber at the upper location.

"The Engineer of Sewers of Newark has called my attention to the fact that Newark has started important street improvements on South Orange Avenue, which improvements contemplate the repavement of the street with asphalt blocks and the changing of the alignment of the street car tracks. This change in the alignment of the street car tracks will bring the tracks over the Joint Sewer at certain points and may necessitate the reconstruction of certain of the manholes where the rails inter-

fere with access into the manhole. Furthermore, Newark's standard manhole cover and frame is very much heavier than the Joint Trunk Sewer frames and covers. The City of Newark makes the very proper request that in undertaking this permanent street improvement their standard manhole frames be used. I would recommend that these frames and covers be altered to suit the standard of Newark at the expense of the Joint Meeting. Some of the discarded manhole frames can be used at other points, and those that are seriously worn can be scrapped and sold for old iron.

"In reference to the cost of rebuilding any manholes that may be necessary from the cause mentioned above, I am of the opinion that this expense should be met by the Public Service Corporation, and unless instructed by the Joint Meeting to the contrary, I will take up negotiations with the Public Service Corporation upon this basis, conferring with Counsel in case of a disagreement between the Public Service and myself as to the responsibility for the cost of this work.

"The Chairman of the Township Committee of the Township of Union has protested to me about the enforcement of the payment of a fee of Ten Dollars for a connection to the Joint Trunk Sewer in Union Township. I advised him to communicate officially with the Joint Meeting through Mr. Rankin. The justification for demanding this payment is the clause in the contract between the Joint Meeting and the Township of Union which reads as follows:

"'And it is further agreed that all connections with said Outlet or Trunk Sewer made by the party of the first part, shall be made at the expense of the party of the first part under the reasonable regulations and inspection of the party of the second part.'

"I would recommend that official action be taken upon the protest of Union Township.

"We have again to complain about the failure of the City of Elizabeth to notify us prior to the making of connections to the Joint Trunk Sewer. It has been our endeavor from time to time to interfere as little as possible with the orderly making of these connections without serious delay by permitting the Street Commissioner to be personally responsible for the connections, notifying the Chief Inspector of the Joint Trunk Sewer before the work is wholly covered up. This works satisfactorily for some months when the privilege is again abused and it becomes necessary to call this abuse to the attention of the authorities. A case of this kind has occurred quite recently.

"No action has been taken so far by the Town of West Orange looking to the readjustment of the exchange of sewerage facilities between Orange and West Orange. The representative

from West Orange has advised me that they are awaiting the advices of the Orange authorities.

"I submit herewith the bill of the Builders Iron Foundry, amounting to $240.00, for the Venturi meter apparatus purchased by the authority of the Joint Meeting for the weir manhole at the South Orange-West Orange line. I also submit bill of Queen & Co. for charts for the Dibble guages, amounting to $5.00.

"Respectfully submitted,

"ALEXANDER POTTER."

Taking up the several recommendations contained in the report, it was moved by Mr. Denman that the proposed weir manhole be located as recommended by the Engineer. Seconded and carried, five ayes, no noes.

The Engineer then submitted two bids for the construction of the Venturi meter chamber, one from John Dorer for the sum of $725.00 and one from Martin Miller and Pizzimenti for the sum of $750.00.

Mr. Stanley moved that the contract be awarded to John Dorer, he being the lowest bidder. A roll call resulted, five ayes, no noes.

Regarding the change of manhole heads on South Orange Avenue, it was moved by Mr. Seymour that new heads and covers be placed on all the manholes on South Orange Avenue to conform with the standard used by Newark; these heads to be purchased by the Joint Meeting at a cost of approximately $10.00 each. Carried, five ayes, no noes.

It was also moved that the Engineer request the Public Service Corporation to set these heads, making any changes in the construction of the manholes that may be necessary, due to the change in their tracks, and in case of their refusal to consult Counsel. Carried.

No communication having been received from Union Township by the Secretary, no action was taken regarding the ten-dollar tap fee charged for making a connection with the sewer.

The report of the Treasurer was read, and on motion received and ordered printed in the minutes.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports, that on the Twentieth day of April, Nineteen Hundred and Sixteen, the date of his last report, he had on deposit in the Orange National Bank the sum of Two Thousand Eight Hundred and Twenty-two Dollars and Fourteen Cents ($2,822.14), with two warrants, 2071 for Two Dollars and Fifty Cents ($2.50), and 2207 for Five Dollars ($5), outstanding, so that the total amount of cash on hand on that date amounted to Two Thousand Eight Hundred and Fourteen Dollars and Sixty-four Cents ($2,814.64).

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank the sum of Ten Dollars ($10), as shown on Schedule 1, hereunto annexed.

"The Treasurer further reports that since the date of his last report he has signed warrants, as shown on Schedule 2, hereunto annexed, amounting to Eight Hundred and Twenty-eight Dollars and Two Cents ($828.02), so that the total amount of cash on hand at the date of this report amounts to Nineteen Hundred and Ninety-six Dollars and Sixty-two Cents ($1996.62). Warrants above referred to are still outstanding, so that he now has on deposit in the Orange National Bank the sum of Two Thousand and Four Dollars and Twelve Cents ($2,004.12).

"All of which is respectfully submitted this Fifteenth day of June, Nineteen Hundred and Sixteen.

"Simeon H. Rollinson,
"Treasurer."

Schedule 1.

1916.			
Apr. 20	Balance	$2,814.64	
May 23	Edward S. Rankin (tap fee from Edmond Hunt, Union Township)	10.00	
	Cash on hand		$2,824.64

Schedule 2.

1916.		
Apr. 22	Weibezahl Print	$ 22.23
" 22	N. Y. Telephone Co.	13.87
" 22	C. W. Sandford	3.00
" 22	Edward S. Rankin	7.94
" 20	Edward S. Rankin, Sec'y	4.00
" 29	C. W. Sandford	170.00
" 29	J. J. Keating	100.00
" 29	E. S. Rankin	35.16
" 29	Alexander Potter	83.33

May 31	Alexander Potter	83.33	
" 31	Corey W. Sandford	170.00	
" 31	John J. Keating	100.00	
" 31	Edward S. Rankin	35.16	
			828.02
	Balance		$1,996.62

The Secretary then presented the following report, which was received and ordered printed in the minutes:

"Joint Meeting:

"Gentlemen:—

"I find that it is customary for the Secretary to present a trial balance and summary of the expenditures for the fiscal year ending April first, sometime after that date in each year.

"In accordance with this custom, I herewith present the following:

SECRETARY'S TRIAL BALANCE

As of April 1, 1916.

Cash in Orange National Bank (in name of Wm. Rollinson)	$ 16.92	
Cash as per Treasurer's Cash Book	2,814.64	
Petty Cash	100.00	
Maintenance Account		$2,931.56
	$2,931.56	$2,931.56

SUMMARY OF EXPENDITURES.

Salary of Engineer	$1,000.00
Salary of Secretary (including office)	422.00
Salary of Treasurer	250.00
Salary of Chief Inspector (including horse)	2,040.00
Salary of Assistant Inspector	1,200.00
Retaining fee of Counsel	250.00
Executive Committee	235.00
Labor, Petty Cash Account	175.00
Repair of South Orange Avenue Sewer	302.11
Investigation of Irvington-Newark flow	200.00
Printing current minutes	119.44
Reprinting old minutes	485.27
Miscellaneous	506.32
	$7,185.14

"Respectfully submitted,

"EDWARD S. RANKIN,

"Secretary."

For the Committee on reprinting and indexing the old minutes, Mr. Denman submitted verbally a final report, presenting the second voulme, this completing the reprinting up to the date of the Annual Meeting of June, 1915. On motion the report was received and the Committee discharged with thanks.

It was moved by Mr. Denman and carried that a Committee of Three be appointed by the Chair to arrange for the annual inspection. After some discussion as to the time, it was decided to hold the inspection in July, the date to be left to the Committee. The Chair appointed Messrs. Denman, Campbell and Woodruff.

The following resolution was offered and on roll call carried, five ayes, no noes:

"Resolved, That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750, which shall be assessed upon the joint municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further, that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"Resolved, That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 15th day of June, 1916."

This is the assessment for the second quarter of 1916.

The following bills were read, approved and on motion ordered paid when properly audited:

C. W. Sandford, April salary and horse ...	$170.00
J. J. Keating, April salary	100.00
E. S. Rankin, April salary and office	35.16
Alexander Potter, April salary	83.33
Alexander Potter, May salary	83.33
C. W. Sandford, May salary and horse	170.00
J. J. Keating, May salary	100.00
E. S. Rankin, May salary and office	35.16
E. G. Pringle	10.00
A. R. Denman	15.00
Francis Speir	15.00
Wellington Campbell	15.00
C. O. Woodruff	15.00

G. F. Seymour, Jr.	15.00
H. J. Stanley	15.00
N. Y. Telephone Co., telephone service	12.27
Evening News Pub. Co., advertisement for bids	5.40
Weibezahl Print, printing minutes of April 20	8.91
Weibezahl Print, printing Vol. 2 of old Minutes	449.28
Wm. B. Morningstern, indexing Vol. 2	40.00
C. W. Sandford, expense account	4.47
J. J. Keating, expense account	2.28
E. S. Rankin, expense account	1.62
E. S. Rankin, Secretary, petty cash	14.00
Queen-Gray Co., gauge charts	5.00
Builders Iron Foundry, Venturi meter	240.00

The Board then went into the election of officers for the ensuing year, the following being unanimously elected:

Chairman—Francis Speir.

Vice-Chairman—Arthur R. Denman.

Engineer—Alexander Potter.

Secretary—Edward S. Rankin.

Treasurer—Simeon H. Rollinson.

Chief Inspector—Corey W. Sandford.

Asst. Inspector—John J. Keating.

Dr. Campbell presented the contract for the readjustment of the maintenance charges, signed by the Millburn authorities. The contract was then handed to Mr. Seymour for presentation to South Orange.

On motion the meeting adjourned at 9:15 P. M.

E. S. Rankin,
Secretary.

Annual Inspection July 12, 1916.

The annual inspection of the Joint Sewer was held on Wednesday, July 12th, leaving the City Hall, Newark, at 9:30 A. M., and proceeding direct to the outlet at the foot of Bayway.

From here the route lay along Bayway and Morris Avenue to Springfield. Note was made of the light manhole heads on Bayway, two of which were found to have been broken by the heavy motor trucks now using the street. A stop was also made to inspect the connection being laid in Union Township without permission of the Joint Meeting.

The next point visited was the site of the proposed South Orange Disposal Works in Millburn Township, after which the party returned to Newark, where luncheon was served at the Robert Treat Hotel.

Those making the trip were: Chairman Francis Speir; members of the Joint Meeting, H. J. Stanley, C. O. Woodruff, G. F. Seymour, Jr., A. R. Denman and Dr. Campbell; Engineer Potter, Inspectors Sandford and Keating, and Secretary Rankin; also the following invited guests: Engineer Casey and Freeholder Lacombe of Irvington; President Tries of Newark, President Clarke, Clerk Fitzsimmons and Trustee Becker of South Orange, Councilman Reid of West Orange and Mr. McEnroe of the Evening News.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of September 26, 1916.

A meeting of the Joint Meeting was held on the above date in the South Orange Village Hall at 8 P. M.

Present: Francis Speir, Chairman; Dr. Campbell, Millburn; Messrs. Stanley, Irvington; Denman, Newark; Seymour, South Orange; Pringle, Summit, and Woodruff, West Orange. Engineer Potter and Inspector Sandford were also present, together with Engineer Casey of Irvington.

The minutes of the last meeting were approved as printed.

Engineer Potter presented the following report, which on motion was received:

"September 25, 1916.

"Joint Meeting:

"Gentlemen:—

"The matter of the existence of odors either in or in the vicinity of certain joint trunk sewers in the Town of Irvington

has been before the Joint Meeting for a long time. Your Engineer, acting singly and in conjunction with other engineers, one of whom was our worthy Secretary, reported that these odors could be ended by the elimination of the house traps all over Irvington, and after a discussion covering a number of years we at last succeeded in getting the consent of the health authorities at Irvington to permit the removal of the house traps where the consent of the owners could be obtained.

"The consent of certain owners along Augusta Street and Lincoln Place was secured, some of them with the proviso that if the experiment should prove to be unsuccessful the house traps should be restored upon the request of the individual property owners. The effect of the removal of these house traps was most marked, and for a period considerably over a year there was almost a total absence of any odors.

"As a result of this experiment the Irvington authorities very wisely changed their plumbing code so as to prohibit the use of house traps, but made no provision for the elimination of the house traps already put in.

"Neither myself nor any of the engineers, reporting upon this matter guaranteed that the omission of a few house traps along the line of the Joint Trunk Sewer would effectually prevent the recurrence of these odors, for it was our unanimous opinion that the elimination of these house traps should be general throughout the town to be wholly efficacious.

"Recently there has been a marked recurrence of the odors in certain sewers in Irvington, both local and joint trunk sewers—very perceptible one night, and for a space of many nights not noticeable at all. As a result of this condition one of the householders on Augusta Street has requested the restoration of the house trap, depending upon a promise made in good faith by the Joint Trunk Sewer Inspector with my consent, that if the removal of the house traps was not efficacious, the house trap would be restored. If we should restore this house trap every other householder might require the same action in his or her case. The fact that in the meantime the Town of Irvington has passed an ordinance prohibiting the use of house traps would make the reinsertion of these house traps illegal, although I am convinced that such an ordinance should have no binding effect against those property owners to whom promises have been made.

"I have, therefore, decided to refer the matter to the Joint Meeting for action rather than take the responsibility of acting upon this matter myself, for I am of the belief that the relief promised was secured but not made permanent because of the omission by the Town of Irvington to order all existing traps removed instead of forbidding house traps on new constructions only.

"This matter is important because the woman who has com-

plained really believes the omission of the trap is seriously injuring her by causing serious odors to pass up through the house and out of the ventilator pipe. To stop this she has placed a carpet over the top of the pipe, with the result that her own plumbing system remains unventilated, although I have notified her, and the officials of Irvington have notified her, what a dangerous thing she has done.

"The Town of Irvington, appreciating the seriousness of the situation, recently requested me to make an investigation of the cause of these odors. So far, it is impossible to state definitely just how and where these odors emanate.

"In the investigation recently inaugurated, all of the flush tanks in Irvington were allowed to flush at their full capacity for less than two days, when the flushing was stopped by the Irvington authorities. Since that time, under the immediate direction of Commissioner Stanley, a fire engine has been used to flush out certain of the laterals. Since this effective purging of the sewers the odors have not been noticeable, although this may be purely a coincidence.

"I am continuing my studies and investigation to see whether or not some other cause can be ascribed for the condition existing in Irvington, but am not able to make a definite report at this time.

"I submit with my approval bills of Maher & Flockhart for twenty-three manhole heads, Newark pattern, for the Joint Trunk Sewer in South Orange Avenue, as ordered by the Joint Meeting. These bills amount to $253.00.

"The reconstruction of the trolley track on South Orange Avenue made necessary the cutting off of the tops of many of our manholes and changes in the vertical alignment of some of these manholes. This work is being done under our general supervision, Assistant Inspector Keating being delegated more particularly to this work. After a thorough understanding was had with the Public Service Corporation engineers in reference to the respective responsibilities in connection with this matter, the work has been satisfactorily carried on and is now tbout two-thirds completed.

"Work has been started on the installation of the Venturi meter on the West Orange-South Orange line. The by-pass has been completed and the contractor will finish the installation of this meter in time to secure records during the fall and winter. The information which we will gather should be exceedingly valuable to all the contributing members of the Joint Trunk Sewer. This work has been delayed due to the difficulty the contractor had in securing sufficient men to prosecute the work.

"The principal items taken up in Inspector Sandford's reports have been as follows:

"Summarizing the work done by him under my instructions

in an effort to locate and remove the odors causing complaints against the Joint Trunk Sewer;

"Reporting upon the work undertaken by him in the removal of a load of stones which were dumped into a manhole on Brookdale Avenue;

"Reporting upon the condition of the work in changing the manholes on South Orange Avenue due to the change in the trolley track, and on Millburn Avenue due to the reconstruction of the pavement and the modification in the grades thereon.

"Respectfully submitted,

"ALEXANDER POTTER."

After considerable discussion on the subject of odors in general and the specific case mentioned in the report in particular, it was moved by Mr. Pringle that Mr. Stanley be requested to attempt to obtain permission from the house owner to extend the ventilating pipe for a distance of three feet higher, with the understanding that at the next meeting the whole question of the Irvington odors be taken up and finally disposed of. So ordered.

Mr. Potter recommended that the old manhole heads and covers removed from South Orange Avenue be sold to John Dorer at four dollars apiece. On motion of Mr. Woodruff the recommendation was concurred in.

The Secretary presented the following letter from the Clerk of Union Township:

"Union, N. J., June 23rd, 1916.

"E. S. Rankin, Esq.,
"Secretary, Joint Meeting,
"City Hall,
"Newark, N. J.:

"Dear Sir:—

"Engineer Alexander Potter recently called upon the undersigned concerning the matter of fee charged by the Joint Meeting for tapping the Trunk Sewer and its branches in the Township of Union, and, in view of the attitude of the Township Committee relative thereto, requested that a formal communication be sent to you setting out the conditions under which Union protests against paying the $10.00 fee, for the action of the Joint Meeting.

"On looking over the files in my office it was ascertained that there was exhaustive discussion of the subject by the Township Committee and considerable correspondence between the writer and former Secretary Tepper resulted. The Township Committee referred the matter of fees provided for in the rules and regulations of the Joint Meeting to our Counsel, John K. English, for opinion. Mr. English wrote a lengthy opinion and I forwarded a copy thereof to Mr. Potter under date of June 17th, 1915, which was

accompanied by a communication of which I am sending you herewith copy for your guidance.

"It is respectfully suggested that Mr. Potter be requested to have his files looked over for the copy of opinion above referred to, and if unable to find it I will prepare another at your request.

"Very respectfully,

"WM. W. FRIBERGER,

"Township Clerk."

The Secretary stated that the report of Mr. English referred to in the letter was printed in the minutes of June 24, 1915.

Mr. Potter stated that he had had some conferences with Mr. Riker regarding this and the Whalen connection, and that Mr. Riker was to take the matter up with Mr. English, but had heard nothing further in regard to it. Mr. Seymour moved that the whole matter be referred to Counsel. So ordered.

The following resolution was offered and on roll call carried, 6 ayes, no noes:

"RESOLVED, That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1,750, which shall be assessed upon the joint municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further, that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED, That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 26th day of September, 1916.

"This is the assessment for the third quarter of 1916."

Mr. Denman asked what had become of the new maintenance contract. Mr. Seymour replied that it had been temporarily held up by the South Orange Village Committee until its terms could be better understood, but that it would probably be presented at their next meeting.

The Chairman stated that at the annual election by an oversight there was no Counsel selected.

Moved and seconded, and unanimously carried that Mr. Adrian Riker be elected Counsel for the ensuing year.

The following bills were read and on motion ordered paid after being properly audited:

Alex. Potter, June salary	$ 83.33
S. H. Rollinson, Apr., May, June, salary	62.50
C. W. Sandford, June salary and horse	170.00
J. J. Keating, June salary	100.00
E. S. Rankin, June salary	35.16
Alex. Potter, July salary	83.33
C. W. Sandford, July salary and horse	170.00
J. J. Keating, July salary	100.00
E. S. Rankin, July salary and office	35.16
Alexander Potter, August salary	83.33
C. W. Sandford, August salary and horse	170.00
J. J. Keating, August salary	100.00
E. S. Rankin, August salary and office	35.16
Alex. Potter, September salary	83.33
S. H. Rollinson, July, Aug., Sept. salary	62.50
C. W. Sandford, Sept. salary and horse	170.00
J. J. Keating, Sept. salary	100.00
E. S. Rankin, Sept. salary and office	35.16
Adrian Riker, retaining fee for year	250.00
Auto Renting Company, machine for inspection	9.00
American Surety Co., premium on Treasurer bond	20.00
Weibezahl Print, printing June minutes	7.11
New York Telephone Co., 3 months' telephone service	18.11
C. W. Sandford, expense account	8.17
J. J. Keating, expense account	2.77
E. S. Rankin, expense account	3.00
E. S. Rankin, Secretary, petty cash	98.00
Maher & Flockhart, manhole heads	253.00

The Treasurer being absent on a vacation, no report was received from him.

On motion the meeting adjourned at 9:15.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of December 14, 1916

A regular meeting of the Joint Meeting was held in the South Orange Village Hall on the above date at 8 P. M.

Present: Francis Speir, Chairman; A. R. Denman, Newark; G. F. Seymour, Jr., South Orange; H. J. Stanley, Irvington; E. G. Pringle, Summit, and Dr. Campbell, Millburn. The Engineer, Treasurer and Inspectors were also present; also Engineer Casey of Irvington.

The minutes of the last meeting were approved as printed

Engineer Potter submitted his usual report, which on motion was received and ordered printed.

"December 14, 1916.

"To the Joint Meeting:

"Gentlemen:

"Since our last meeting the Venturi meter designed to record accurately the flow coming from West Orange has been placed in operation.

"About a year and a half ago, you will recall a report written by your Engineer to the effect that the waste from the hat factory draining through the Orange sewers connected with the West Orange trunk sewer was forming a coating upon the walls of the pipe and not only retarding the flow but also reducing the area of the sewer. We have taken into account these factors entering into the computations for sewer capacities, and as a result made a reduction of approximately 29.6 per cent. in the West Orange flow of 1915 over that of clean, well-laid sewer pipe. The records so far taken by the Venturi meter indicate that these revised computations were within one per cent. of the actual flow contributed by West Orange.

"Based upon the records of last year as checked up by the Venturi meter readings, there are seasons of the year in which the discharge from West Orange through South Orange is in excess of West Orange's allotted capacity.

"Arguing from the same premise, it can be safely stated that there are also periods when the contribution from Newark and Irvington exceeds their allotted capacity.

"While on the one hand this condition of surcharging is to be deplored, on the other it is a condition which we must logically expect, for the growth of these cities has been so phenomenal that the population which we anticipated would be reached in 1940 has already been reached in 1916. The enormous increase realized in the past fifteen years in the assessed valuation of real estate within the territory served by the Joint Trunk Sewer now places these cities in a much better position to secure additional sewerage facilities than when the proposition was first launched.

"Again, the Township of South Orange, which, through the courtesy of its neighbors, has enjoyed sewerage facilities since the inception of the Joint Trunk Sewer, has now outgrown the limited capacity that it has been able to secure in the Joint Trunk Sewer, and is now seeking to secure additional sewerage facilities by the construction of a sewage disposal plant to be located in the geographic center of the territory served by the Joint Trunk Sewer and to the detriment of a large section which will be permanently injured thereby. On the other hand, it must be appreciated that if South Orange Township is in fact using its maximum allotted capacity in the Joint Trunk Sewer, it is not only right but also wise and proper for them to seek additional sewerage capacity. South Orange Village has a sufficient capacity not needed at present that it might dispose of to serve the present and immediate prospective needs of South Orange Township. But sooner or later some definite action must be taken to meet the situation that has arisen because of the unprecedented growth of this territory, which has been far in excess of estimates made when the Joint Trunk Sewer was conceived and constructed.

"Additional legislation will be needed to meet this situation when it arises, but before the proper legislative act can be drawn to meet the situation, your Engineer should be given authority to make a detailed study of the problem. As such a study will consume more of my time than I am warranted to spend under my engagement with the Joint Meeting, I request authority to investigate this matter and to submit a report upon the general question as to how best and how most economically to meet the situation that has arisen and will continue to arise by reason of the excess flow from certain of the municipalities. As time advances and more and more houses are constructed, this matter will become most urgent, and consequently an immediate study will be of advantage to all of the joint municipalities.

"Your Engineer begs to report that he was retained by the Town of Irvington to investigate the cause of the odors in the Joint Trunk Sewer and adjacent laterals. As a result of the extensive investigation made it has been proved conclusively that the odors arising from the Irvington lateral sewers adjacent to the Joint Trunk Sewer cannot be attributed to the backing up from the Joint Trunk Sewer. Such odors can only have their source in the Irvington and Newark lateral sewers, for a very pronounced air movement has been found to exist in every instance from the Irvington lateral sewers to the Joint Trunk Sewer.

"The old and accepted theory that sewer gas travels uphill and escapes at the highest points of the sewerage system is unsound. Sewer gases resulting from the putrefaction of fecal matter in the sewers do not rise to the surface at the point where they are created but are gradually carried to the trunk sewers with the current of the sewage, and there, because of the restricted air

space above the liquid, most of the sewer gases are forced out; therefore, when conditions in the lateral sewers are such as to produce offensive gases, the effect of these gases is not felt in the laterals but in the main and trunk sewers.

"The reason for this phenomenon becomes very obvious when we consider that in all lateral sewers the normal flow occupies proportionately a very much smaller area of the pipe than the normal flow in the trunks and mains. In the sewerage system of a city there are many streets in which the sewage could be taken care of by a pipe as small as 4 inches, whereas lateral sewers are seldom built less than 8 inches in diameter. The space in the sewer above the liquid becomes a reservoir for sewer gas if sewage matter is not promptly carried away but is allowed to deposit and putrefy. This sewer gas is gradually carried downhill with the flow of the sewage to the mains where the air space above the liquid is proportionately smaller, and entirely absent when these mains run full, thus forcing a portion or all of the sewer gas to the surface either through manhole perforations or through the house traps.

"The lateral sewers in Irvington and in Newark are not flushed satisfactorily, nor ventilated, and until proper flushing and proper ventilation are resorted to, the odors which have been a source of annoyance on the lower stretches of the Joint Trunk Sewer in Irvington will continue.

"It has been assumed that the odors in Augusta Street and Lincoln Avenue were due to causes existing in the joint sewers, and that any odors arising in nearby lateral sewers were produced by conditions existing in these joint trunk sewers. The reverse is true; these odors are produced by the unsanitary lateral sewers.

"Just what proportion of the odors in the trunk sewers in Irvington is caused by the gases generated in the Newark sewers finding their way down through some of Irvington's lateral sewers and the upper stretches of the Joint Trunk Sewer to the points on the Joint Trunk Sewer where these odors are noticed principally, is problematical and difficult to arrive at, but if any portion of the odors noticed in the joint trunk sewers in the lower part of Irvington emanate from gases in the Newark sewers, the Town of Irvington unquestionably has a right to insist upon the maintenance by Newark of sanitary conditions within their own sewerage system. As the engineers of Newark are in accord with your Engineer that proper ventilation and proper flushing will positively prevent odors arising from sewers, it becomes the province of the Joint Meeting to co-operate as a body in securing a revision of the health code of Newark to the end that intercepting traps be eliminated, for until such time as this is done it will be practically impossible to secure that co-operation of the people of Irvington in the elimination of house traps without which no rule and no law can be wholly effective.

"I submit herewith a final estimate for John Dorer in the matter of the construction of a sewer on Union Avenue in the Town of Irvington, authorized by the Joint Meeting, amount of estimate being $388.25

"I also submit herewith a final estimate for John Dorer in the matter of the construction of the Venturi meter chamber at the West Orange-South Orange line, amounting to $890.92. This proved to be an exceedingly difficult piece of work and actually cost the contractor $1311.00 without any profit. The contract price was $725.00. In addition to the contract price, I have allowed the contractor for sheathing left in the trench for the protection of the track and the gas main, $75.00; for the cast iron by-pass which was constructed in place of the vitrified pipe, $75.92, and also $15.00 for the additional price of the cover which was specially ordered for this work over the one shown upon the plan.

"The information secured from the Venturi meter just installed would indicate that the records that have been taken by your Engineer, revised from time to time to take into consideration the condition of the sewer, are sufficiently approximate to give an intelligent idea as to sewage flows throughout the system. The question, therefore, arises as to whether the installation of additional Venturi meters is advisable. Of course, the present method of securing sewer flows falls down the minute the sewer becomes surcharged, whereas by the Venturi meter all of these peaks can be exactly recorded, and therefore the extreme maximum flows definitely known, which is not the case at present. There is no question but that in view of the general approach of many of the cities to their maximum capacities in the joint sewer, the knowledge of these highest flows for short periods is important. Your Engineer is not prepared at this time to state definitely that Venturi meters should be installed throughout the system, but suggests to the members of the Joint Meeting the serious consideration of the wisdom of their installation.

"Respectfully submitted,

"Alexander Potter."

Mr. Potter explained at length his investigation as to the cause of the odors in Irvington, and after some discussion it was moved by Mr. Seymour and carried that the Chair appoint a committee to confer with the Newark Board of Health and request them to change the code so as to prohibit the use of the main house traps, in order to secure better ventillation for the Newark sewers.

The Chair appointed Messrs. Stanley, Potter and Rankin as such committee.

Mr. Potter exhibited charts from the Venturi meter which

had been in operation for two weeks. It was decided to take no action in regard to installing additional meters at this time.

The Engineer then explained further his views regarding the future needs of the municipalities along the line of the Joint Trunk Sewer, both those now represented in the Joint Meeting and others included within its territory. After considerable discussion Mr. Denman moved that the recommendation of the Engineer that he be given authority to make a detailed study of the situation be concurred in and that he be requested to submit a report at the earliest possible date. Carried, 5 ayes, no noes.

The final estimate for the construction of the sewer in Union Avenue, Irvington, John Dorer, contractor, amounting to $388.25, was approved.

Regarding final estimate for the construction of the Venturi meter, amounting to $890.92, the Engineer stated that the contractor, John Dorer, would present a claim for additional compensation on account of quicksand excavation and extra concrete used in the work. He recommended that the estimate be paid as presented, the claim to be investigated by him and reported on at the next meeting.

Mr. Denman moved that the recommendation be concurred in. Carried, 4 ayes, no noes, Mr. Seymour having been excused.

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on the Twenty-eighth day of September, Nineteen Hundred and Sixteen, he prepared his report to this Honorable Body, which is hereunto annexed. Owing to a mistake made as to the date of the meeting this report was not protested at that time. In order that the financial proceedings of each quarter may be kept separately, the Treasurer herewith submits his report of the various transactions in his office since the date of his last printed report:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on the Fifteenth day of June, Nineteen Hundred and Sixteen, the date of his last report, he had on deposit in the Orange National Bank the sum of

Twenty Hundred and Four Dollars and Twelve Cents ($2004.12), with two warrants, to wit: 2071 for Two Dollars and Fifty Cents ($2.50) and 2207 for Five Dollars ($5), outstanding, so that the total amount of cash on hand at that date was Nineteen Hundred and Ninety-six Dollars and Sixty-two Cents ($1996.62).

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank the sum of Seventeen Hundred and Fifty-five Dollars ($1755) and has been allowed Fourteen Dollars and Twenty-eight Cents ($14.28) for interest, as shown on Schedule 1, which is hereunto attached.

"The Treasurer further reports that since the date of his last report he has signed warrants, as shown on Schedule 2, hereunto annexed, amounting to Twenty-one Hundred and Eleven Dollars and Twenty Cents ($2111.20), so that the total amount of cash on hand at the date of this report amounts to Sixteen Hundred and Fifty-four Dollars and Seventy Cents ($1654.70). Warrants above referred to are still outstanding, so that he now has on deposit in the Orange National Bank the sum of Sixteen Hundred and Sixty-two Dollars and Twenty Cents ($1662.20).

"All of which is respectfully submitted this Twenty-eighth day of September, Nineteen Hundred and Sixteen.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1916			
June 15	Balance	$1,996.62	
" 19	South Orange	250.00	
" 21	Summit	250.00	
" 21	West Orange	250.00	
July 1	Irvington	250.00	
" 26	Millburn	250.00	
Aug. 11	Edward S. Rankin	5.00	
	Interest	14.28	
Sept. 25	Newark	500.00	
	Cash on hand		$3,765.90

SCHEDULE 2.

1916		
June 16	E. G. Pringle	$ 10.00
" 16	A. R. Denman	15.00
" 16	Francis Speir	15.00
" 16	Wellington Campbell	15.00
" 16	C. O. Woodruff	15.00
" 16	G. F. Seymour	15.00
" 16	H. J. Stanley	15.00
" 16	N. Y. Tel. Co.	12.27

"	16	Evening News Pub. Co.	5.40
"	16	Weibezahl Print	8.91
"	16	Weibezahl Print	449.28
"	16	William B. Morningstern	40.00
"	16	C. W. Sandford	4.47
"	16	J. J. Keating	2.28
"	16	E. S. Rankin	1.62
"	16	E. S. Rankin, Sec'y	14.00
"	16	Queen Gray Co.	5.00
"	16	Builders Iron Foundry	240.00
"	30	Alexander Potter	83.33
"	30	Simeon H. Rollinson	62.50
"	30	C. W. Sandford	170.00
"	30	J. J. Keating	100.00
"	30	E. S. Rankin	35.16
July	31	Alexander Potter	83.33
"	31	Corey W. Sandford	170.00
"	31	John J. Keating	100.00
"	31	Edward S. Rankin	35.16
Aug.	31	Alexander Potter	83.33
"	31	C. W. Sandford	170.00
"	31	J. J. Keating	100.00
"	31	E. S. Rankin	35.16
			2,111.20
		Balance	$1,654.70

"On the Twenty-eighth day of September, Nineteen Hundred and Sixteen, the date of his last report hereunto annexed as aforesaid, he had on deposit in the Orange National Bank the sum of Sixteen Hundred and Sixty-two Dollars and Twenty Cents ($1662.20), with two warrants, to wit: 2071 for Two Dollars and Fifty Cents ($2.50) and 2207 for Five Dollars ($5), outstanding, so that the total amount of cash on hand at that date was Sixteen Hundred and Fifty-four Dollars and Seventy Cents ($1654.70).

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank the sum of Seventeen Hundred and Eighty-eight Dollars and Fifty Cents ($1788.50), and has been allowed Six Dollars and Eighty-three Cents ($6.83) interest, so that with the balance above referred to he had cash on hand amounting to Thirty-four Hundred and Fifty Dollars and Three Cents ($3450.03), as shown on Schedule 1 hereunto annexed.

"The Treasurer further reports that since the date of his last report he has signed warrants, as shown on Schedule 2, hereunto annexed, amounting to Eighteen Hundred and Ninety-seven Dollars and Thirteen Cents ($1897.13), so that the total amount of cash on hand at the date of this report amounts to Fifteen Hun-

dred and Fifty-two Dollars and Ninety Cents ($1552.90). Warrants above referred to are, however, still outstanding, so that he now has on deposit in the Orange National Bank the sum of Fifteen Hundred and Sixty Dollars and Forty Cents ($1560.40).

"All of which is respectfully submitted this Fourteenth day of December, Nineteen Hundred and Sixteen.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1916			
Sept.	28	Balance	$1,654.70
"	18	South Orange	2.50
"	18	Corey W. Sandford (manhole heads)	30.00
"	27	Northern Construction Co.	6.00
Oct.	4	Irvington	250.00
"	4	Millburn	250.00
"	4	Summit	250.00
"	4	West Orange	250.00
"	16	South Orange	250.00
"	16	Newark	500.00
		Interest	6.83
		Cash on hand	$3,450.03

SCHEDULE 2.

1916			
Sept.	20	Alexander Potter	$ 83.33
"	30	S. H. Rollinson	62.50
"	30	C. W. Sandford	170.00
"	30	J. J. Keating	100.00
"	30	E. S. Rankin	35.16
"	27	Adrian Riker	250.00
"	27	Auto Renting Co.	9.00
"	27	American Surety Co.	20.00
"	27	Weibezahl Print	7.11
"	27	N. Y. Tel. Co.	18.11
"	27	C. W. Sandford	8.17
"	27	J. J. Keating	2.77
"	27	E. S. Rankin	3.00
"	27	E. S. Rankin, Sec'y	98.00
"	27	Maher & Flockhart	253.00
Oct.	30	Alexander Potter	83.33
"	30	C. W. Sandford	170.00
"	30	John J. Keating	100.00
"	30	E. S. Rankin	35.16
Nov.	29	Alexander Potter	83.33

"	29	C. W. Sandford	170.00	
"	29	J. J. Keating	100.00	
"	29	E. S. Rankin	35.16	
				1,897.13
		Balance		$1,552.90

Dr. Campbell called attention to the way in which the manhole heads on Millburn Avenue had been set when the street was paved. Mr. Potter stated that the matter had been taken up with the County Engineer and had been remedied.

The following resolution was presented and on motion adopted, 4 ayes, no noes:

"Resolved, That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750, which shall be assessed upon the joint municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount, or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg); and further, that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"Resolved, That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 14th day of December, 1916.

"This is the assessment for the 4th quarter of 1916."

The Chairman recommended that a legislative committee be appointed to consider and introduce such new legislation as may be advantageous to the Joint Meeting at the coming session of the Legislature, and to consider any bills which may be introduced by others affecting the Joint Trunk Sewer. Mr. Stanley moved that the Chair appoint such a committee. Carried. The Chair appointed Messrs. Stanley, Denman and Seymour.

The following bills were then read and on motion ordered paid after being properly audited, 4 ayes, no noes:

John Dorer, construction of Venturi meter	$890.92
John Dorer, construction of Union Avenue sewer	388.25
Alexander Potter, October salary	83.33
C. W. Sandford, October salary and horse	170.00
J. J. Keating, October salary	100.00
E. S. Rankin, October salary and office ...	35.16

Alexander Potter, November salary	83.33
C. W. Sandford, November salary and horse	170.00
J. J. Keating, November salary	100.00
E. S. Rankin, November salary and office	35.16
Weibezahl Print, Minutes of Sept. 26	6.03
N. Y. Telephone Co.	18.32
E. G. Pringle	10.00
C. O. Woodruff	10.00
A. R. Denman	15.00
H. J. Stanley	15.00
G. F. Seymour, Jr.	15.00
Wellington Campbell	15.00
Francis Speir	15.00
C. W. Sandford, expense account	4.80
J. J. Keating, expense account	1.96
E. S. Rankin, Sec'y, petty cash	38.00

On motion the meeting adjourned at 10:30 P. M.

EDWARD S. RANKIN,

Secretary.

Joint Meeting of February 1, 1917.

A regular meeting was held in the South Orange Village Hall on the above date at 8 P. M.

Present: Chairman Speir, and Messrs. Pringle of Summit, Campbell of Millburn, Denman of Newark, Seymour of South Orange, Stanley of Irvington and Corr of West Orange. The Engineer, Treasurer and Inspectors and Mr. Casey of Irvington were also present.

Engineer Potter read his report which was received and ordered printed in the minutes.

"February 1, 1917.

"To the Joint Meeting.

"Gentlemen:

"Since our last meeting the readings obtained from the Venturi meter installed at the West Orange line are indeed gratifying, in that they indicate that the Town of West Orange will not for some time to come exceed its allotted capacity under anything like normal conditions. The Venturi records to date show that the flow from West Orange has not reached its allotted capacity in the last six weeks. The highest flow recorded was on Friday, December 22nd, when the flow reached about 3,500,000 gallons for a period of thirty minutes. On Sunday, January 7, the next highest flow occurred, amounting to 3,100,000 gallons for a period of about an hour. Under normal conditions the flow in the West Orange trunk sewer is approximately 2,000,000 gallons.

"During the past month your engineer has been making an investigation to determine the ultimate capacities required by the various municipalities in an enlarged trunk sewer system. Our figures, based upon the practice followed recently in the Passaic Valley Sewer and other large modern sewerage systems, show that that the joint trunk sewer, when enlarged, should have its capacity at least trebled, and perhaps quadrupled, depending largely upon how many of the municipalities not now tributary to the joint trunk sewer should decide to avail themselves of its benefits. An enlarged joint trunk sewer would entail a very heavy expense upon the various municipalities for reconstruction work from which most of them, as our records show, will derive no benefit whatever for many years to come.

"For this reason I have given my attention to the possibility of adopting a plan that will satisfactorily meet the present situation of occasional overflow at certain points in a sanitary way, with the object of extending the useful life of the joint trunk sewer, and thus postponing the date of reconstruction. A very economic and sound solution of the problem has suggested itself to me, but the plan that we have under consideration for extend-

ing the useful life of the joint trunk sewer requires certain legislation before it can be made effective. In connection with the necessary legislation conferences have been held between the Special Legislative Committee, the Chairman, your Counsel and your Engineer, as a result of which a proposed amendment was drafted by Counsel, discussed by the Committee, and recommended for submission to the Joint Meeting for approval and authority to submit it to the Legislature for enactment. If approved we will proceed with our studies and report at the next meeting.

"In conformity with our promise, your Secretary and your Engineer appeared before the Newark Board of Health on December 28th, and urged upon them the wisdom of changing their plumbing code to exclude the use of the main house trap on joint trunk sewers in Newark and Vailsburg. As a result of this conference the Newark Board of Health promised us that they would not adopt any new code until the matter of house traps had been thoroughly investigated by them.

"I submit herewith bill of Ernest H. Du Vivier for six recording pens at $1.00 each, amounting to $6.00.

"Respectfully submitted,

ALEXANDER POTTER."

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising The Joint Sewer Meeting.

"Gentlemen:

"The Treasurer respectfully reports that on the 14th day of December 1916, the date of his last report, he had on deposit in the Orange National Bank, the sum of $1,560.40. with two warrants, to wit: 2017 for $2.50 and 2207 for $5. outstanding, so that the total amount of cash on hand at that date amounted to $1,552.90.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1,750. and has been allowed $2.99 interest, as shown on Schedule I. hereunto annexed, so that the total amount of cash on hand amounted to $3,305.89, as shown on said Schedule I.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2, hereunto annexed, amounting to $2,282.88., so that the total amount of cash on hand at the date of this report amounts to $1,023.01. Warrants 2017 for $2.50, 2207 for $5., 2367 for $15., 2376 for $83.33, 2377 for $170., 2378 for $100., and 2379 for $35.16, are still outstanding, so that he now has on deposit in the Orange National Bank the sum of $1,434.

"All of which is respectfully submitted this First day of February, Nineteen Hundred and Seventeen.

"SIMEON H. ROLLINSON,

"Treasurer."

SCHEDULE 1.

1916.				
Dec.	14	Balance	$1,552.90	
"	28	Summit	250.00	
"	29	West Orange	250.00	
"	30	Irvington	250.00	
1917.				
Jan.	15	South Orange	250.00	
"	29	Millburn	250.00	
		Newark	500.00	
		Interest	2.99	
		Cash on hand		$3305.89

SCHEDULE 2.

1916.				
Dec.	15.	John Dorer	$388.25	
"	15	" "	890.92	
"	15	Weibezahl Print	6.03	
"	15	N. Y. Telephone Co.	18.32	
"	15	E. G. Pringle	10.00	
"	15	C. O. Woodruff	10.00	
"	15	A. R. Denman	15.00	
"	15	H. J. Stanley	15.00	
"	15	G. F. Seymour Jr.	15.00	
"	15	Wellington Campbell	15.00	
"	15	Francis Speir	15.00	
"	15	C. W. Sandford	4.80	
"	15	J. J. Keating	1.96	
"	15	E. S. Rankin Sec'y	38.00	
"	30	Alexander Potter	83.33	
"	30	S. H. Rollinson	62.50	
"	30	C. W. Sandford	170.00	
"	30	J. J. Keating	100.00	
"	30	E. S. Rankin	35.21	
Jan.	30	Alexander Potter	83.33	
"	30	C. W. Sandford	170.00	
"	30	J. J. Keating	100.00	
"	30	E. S. Rankin	35.16	
				2282.88
		Balance		$1023.01

For the Legislative Committee, Mr. Denman reported that the Committee met on January 29th, 1917, at Mr. Riker's office, the Chairman, Counsel, Engineer and Secretary and Messrs. Stanley and Denman being present.

At this meeting the Counsel submitted a draft of a proposed

bill, which after an amendment suggested by Mr. Denman was approved. The bill which is a supplement to the Joint Sewer Act of 1899 was then read and fully discussed. Mr. Potter made a statement as to the purpose of the bill and outlined briefly the result of his investigations and the remedy proposed to provide for excess flows. Mr. Seymour moved that the bill be approved and that Counsel be requested to present the same to the Legislature and urge its passage. Carried.

Mr. Speir stated that Counsel was preparing another bill making it a misdemeanor for unauthorized persons to interfere or tamper with the Joint Sewer. Mr. Seymour moved that it be the sense of this meeting that Counsel be requested to prepare such an Act and present the same to the Legislature. Carried.

A motion was made that the Auditing Committee be directed to secure the services of a certified accountant to audit the books of the Secretary and Treasurer, the cost not to exceed $50.00. Carried, 5 ayes, 0 noes.

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee, 5 ayes, 0 noes.

Alexander Potter, December salary	$ 83.37
S. H. Rollinson, Oct., Nov., Dec., salary ..	62.50
C. W. Sandford, Dec., salary and horse ...	170.00
J. J. Keating, Dec., salary	100.00
E. S. Rankin, Dec., salary and office	35.24
Alex. Potter, January salary	83.33
C. W. Sandford, January salary and horse,	170.00
J. J. Keating, January salary	100.00
E. S. Rankin, January salary	35.16
Queen Gray Company, Guage charts	6.25
Maher & Flockhart, manhole head	11.00
Weibezahl Print, printing minutes	10.35
N. Y. Telephone Co.	15.35
I. J. Casey, Jr., Union Ave., sewer	19.41
Ernest H. DuVivier, pens for recording instruments	6.00
E. S. Rankin, Petty cash	44.00

On motion the meeting adjourned at 9.20 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of April 19, 1917.

A regular meeting of the Joint Meeting was held in the South Orange Village Hall on the above date at 8 P. M.

Present: Chairman Speir, and Messrs. Denman, Seymour, Campbell and Corr. The Engineer, Treasurer and Inspectors were also present.

Engineer Potter read his usual report, which on motion was received and ordered printed in the minutes:

"April 19, 1917.

"To the Joint Meeting:

"Gentlemen:—

"I submit herewith a record of the flow in the Joint Trunk Sewer contributed by the various municipalities for the year 1916. This record is shown in two tables, one giving the average daily contributing flow, and the other, the maximum weekly flow to the Joint Trunk Sewer. From these tables it will be seen that the average daily flow in the main trunk sewer has been 53.9 of the capacity of the sewer. The maximum weekly flow records indicate that Newark and West Orange have exceeded their capacity for a period of a week at a time, the former by 7.6 per cent. and the latter by 1.2 per cent., while the other municipalities contributed less than their allotted capacities during the week of maximum flow. The subdivision of the Newark flow at its various branches has been submitted to Mr. Rankin, Engineer of Sewers and Drains of the City of Newark, under date of March 23, 1917:

TABLE No. 1.

AVERAGE DAILY CONTRIBUTING FLOW TO THE JOINT TRUNK SEWER BY THE VARIOUS MUNICIPALITIES FOR THE YEAR 1916.

(Flow expressed in thousands of gallons per day.)

	Newark.	Irvington.	South Orange.	West Orange.	Summit.	Millburn.	Total.
Daily flow	2,750	2,550	1,205	2,209	1,600	1,025	11,339
Allotted capacity	4,263	3,373	3,421	3,528	4,227	2,188	21,000
% of capacity ..	64.5	75.5	35.2	62.6	37.8	46.8	53.9

TABLE No. 2.

MAXIMUM WEEKLY FLOW TO THE JOINT TRUNK SEWER BY THE VARIOUS MUNICIPALITIES FOR THE YEAR 1916.

(Flow expressed in thousands of gallons per day.)

	Newark.	Irvington.	South Orange.	West Orange.	Summit.	Millburn.
Daily flow	4,585	3,200	1,910	3,560	3,760	1,700
Allotted capacity	4,263	3,373	3,421	3,528	4,227	2,188

% of capacity	107.6	94.9	55.8	101.2	89.2	77.7
Ratio of maximum weekly flow to average daily flow	1.68	1.25	1.58	1.61	2.35	1.66

"Since the last meeting Vice-Chairman Denman made an excellent suggestion, that in view of the possibility of irresponsible persons assuming that the exposed cast iron pipe sewers at various points in the Joint Trunk Sewer might be water supply mains of some city or cities, and therefore fair game for destruction, the exposed pipes be painted legibly and clearly with the inscription 'Joint Outlet Sewer Pipe'. I got in touch with Commissioner Stanley, of Irvington, to procure a price from a reputable painter for doing this work. Mr. Stanley secured a price of $50.00 for doing this painting. The pipe has been painted in eleven places, 248 feet of painting in all, with letters 16″ high and 3″ wide. I have approved the bill of $50.00 and submitted the same to the Secretary.

"Inspector Sandford reports that there has been a recurrence of the discharge into the sewer of cotton wastes from the factory district of Irvington. I requested him to follow up this matter to determine the origin, but so far he has been unable to detect exactly where this waste enters the sewer, but he has advised certain of the factories to issue orders to their men to be more careful about permitting this cotton waste to enter the sewers. I am of the opinion that this matter can be remedied in this way without suggesting any drastic measures for its prevention.

"The South Orange Avenue work of changing over the manholes and installing new manhole heads has been completed in a satisfactory manner. The obligation of the Joint Trunk Sewer has thus been discharged, the financial obligation having been to furnish Newark's standard covers upon the manholes on this section.

"Mr. Dorer has installed the by-pass at the Venturi meter, but so far has not submitted a detailed statement of his bill for the additional work that he was called upon to perform in connection with the construction of this Venturi meter chamber, consequently I am unable to make any recommendation as to additional compensation to be paid to him therefor.

"I am glad to report that never since the inception of the Joint Trunk Sewer have we passed a spring during which so little trouble has arisen from storm water overflows. I am of the opinion that the warnings issued by the Joint Meeting as to the using up of capacities is having its effect and that in certain municipalities increments of flow which were unnecessarily discharged into the Joint Trunk Sewer have been cut off, thus reducing the tendency to overtax the sewer. This is notably true in the South Orange-West Orange section, where since the in-

stallation of the Venturi meter there has been no serious trouble in connection with sewer overflows.

"The Joint Trunk Sewer furnished to Mr. F. Ross Sandford a wagon for the transportation of tools from point to point. This wagon got in a dilapidated condition, and Mr. Corey Sandford asked permission to have it gone over carefully by a blacksmith. He estimated the cost of repairing it to be $45.00, and upon that basis I authorized him to proceed with the work. He has presented a bill for $49.00; several minor changes which were not contemplated when the estimate was made but which were for the betterment of the wagon and were necessary to put the wagon in first-class condition, were made. I would recommend the payment of this bill.

"The outlet of the sewer continues to function in a satisfactory manner, and very rarely is there any objectionable discharge into the Arthur Kill from the Joint Trunk Sewer.

"There have been few stoppages on the Joint Trunk Sewer throughout its length, and through the winter it has functioned in a satisfactory manner.

"Respectfully submitted,

"Alexander Potter."

The report of the Treasurer was read and on motion received and ordered printed:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on the 1st day of February, 1917, the date of his last report, he had on deposit in the Orange National Bank the sum of $1434, with Warrants 2017 for $2.50, 2207 for $5, 2367 for $15, 2376 for $83.33, 2377 for $170, 2378 for $100 and 2379 for $35.16 outstanding; the said warrants aggregating the sum of $410.99, left an actual balance of cash on hand at that date amounting to $1,023.01.

"The Treasurer further reports, that since the date of his last report he has made no deposits in the Orange National Bank, but has been credited with $3.70 interest, so that the total amount of cash on hand was the sum of $1,026.71 as shown on Schedule 1 hereunto annexed.

"The Treasurer further reports, that since the date of his last report he has executed warrants as shown on Schedule 2, hereunto annexed, amounting to $951.84; that Warrants 2367, 2376, 2377, 2378 and 2379, amounting to $403.49, have been presented for payment, so that he now has on deposit in the Orange National Bank the sum of $82.37. Warrants 2017 for $2.50 and 2207 for $5 are still outstanding, so that the actual amount of cash on hand at the date of this report is the sum of $74.87.

"All of which is respectfully submitted this 19th day of April, 1917.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1917.			
Feb. 1	Balance	$1,023.01	
Mar. 31	Interest	3.70	
			$1,026.71

SCHEDULE 2.

1917.			
Feb. 2	Queen Gray Co.	$ 6.25	
" 2	The Weibezahl Print	10.35	
" 2	Maher & Flockhart	11.00	
" 2	I. J. Casey, Jr.	19.41	
" 2	N. Y. Telephone Co.	15.35	
" 2	E. S. Rankin, Sec'y	44.00	
" 2	E. H. Vivier	6.00	
" 25	Alexander Potter	83.33	
" 25	C. W. Sandford	170.00	
" 28	J. J. Keating	100.00	
" 28	E. S. Rankin	35.16	
Mar. 30	Alexander Potter	83.33	
" 30	S. H. Rollinson	62.50	
" 30	C. W. Sandford	170.00	
" 30	J. J. Keating	100.00	
" 30	E. S. Rankin	35.16	
			951.84
	Cash on hand		$ 74.87

The following resolution was then presented and on roll call carried, 4 ayes, no noes.

"*Resolved*. That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1,750, which shall be assessed upon the joint municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further, that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

Resolved. That the said monies be paid to the Treasurer of

the Joint Meeting within twenty days of the 19th day of April, 1917.

"This is the assessment for the 1st quarter of 1917."

Mr. Seymour for the Auditing Committee presented the report of Lovejoy, Mather & Hough, expert accountants, on the audit of the books of the Secretary and Treasurer as ordered at the last meeting:

"April 18, 1917.

"George F. Seymour, Jr., Esq.,
"Chairman, Auditing Committee, Joint Sewer Meeting,
"South Orange, New Jersey:

"Dear Sir:—

"As instructed, we have made an audit of the books and accounts of the Secretary and Treasurer of the Joint Sewer Meeting from March 1, 1915, to February 1, 1917, inclusive, and find the same to be correct.

"The transactions which took place over this period may be summarized as follows:

Cash on hand and in bank March 1, 1915 (Treasurer's Account)			$ 1,607.94
Assessments made and collected over the period		$14,000.00	
Items outstanding March 1, 1915, and collected during the period:			
Irvington 1906 assessment	$300.00		
Irvington, Newark and South Orange pro rata share of O. W. Palmenberg's bill	150.00	450.00	
Interest		59.42	
Miscellaneous		53.50	14,562.92
Disbursements—(Warrants 2166 to 2379 inclusive)			15,147.85
Balance, February 1, 1917, on deposit in the Orange National Bank			$ 1,023.01

"We verified the assessments and miscellaneous income with the minutes of the Committee and traced these receipts, as well as the collection of items outstanding at the start of the period, to the bank account.

"Warrants bearing numbers 2166 to 2379 inclusive were inspected for all disbursements made and were found to be in order with the exception of numbers 2173 and 2336, which did not bear the approval of the Chairman.

"The trial balance of the books as at the close of business February 1, 1917, is as follows:

	Debit.	Credit.
Petty Cash	$ 100.00	
Maintenance Account		$1,139.93
Cash in bank—S. H. Rollinson	1,023.01	
do. —William Rollinson	16.92	
	$1,139.93	$1,139.93

"We verified the petty cash on hand as at the close of business February 1st and reconciled the cash in bank standing to the credit of S. H. Rollinson, Treasurer, with a certificate from the depositary.

"We note on page 10 of the report of the Joint Meeting held March 11, 1915, that a resolution was passed authorizing the Orange National Bank to pay to S. H. Rollinson as Treasurer the $16.92 standing in the name of William Rollinson. This transfer has not as yet been made, the item being still carried in the name of the former Treasurer.

"Yours very truly,

"Lovejoy, Mather & Hough."

On motion the report was received and ordered filed.

Attention was called to an apparent discrepancy in the date of the last audit. On page 426, Volume 2, of the minutes the report of Mr. C. C. Taylor is dated March 6, 1915, but states that audit is made to April 1, 1914. It was moved that the auditing Committee look into the matter, and if it was found that the books had not been examined between April 1, 1914, and March 1, 1915, that they be authorized to have this done by the same accountants. Carried.

The Secretary was authorized to draw a warrant for $16.92 to the order of S. H. Rollinson, Treasurer, to be signed by Wm. Rollinson in order that the cash on hand in the bank may be transferred to the present Treasurer.

Mr. Denman presented a letter from the Engineer of Sewers of Newark, which was read and ordered printed in the minutes:

"City Hall, Newark, N. J., April 13, 1917.

"Mr. Arthur R. Denman,

"Vice Chairman, Joint Meeting:

"Dear Sir:—

"It may be of interest to the Joint Meeting to learn that the matter of eliminating leaders entering the Joint Sewer System has been followed up and a considerable number disconnected.

"You will remember that in 1915 Mr. Casey and myself made a report on the excessive flow in Newark and Irvington. Embodied in this report was a table showing the number of leaders found entering the sewers. Another inspection has just been completed and the result is shown below in comparison with the table formerly presented:

	1915.		1917.	
Section.	Number.	Area Sq. Ft.	Number.	Area Sq. Ft.
South Orange Avenue	50	42,750	31	26,450
Nineteenth Avenue	42	77,480	22	28,120
Lyons Avenue	43	32,600	24	19,800
Vailsburg	57	61,000	14	16,350
Totals	192	213,830	91	90,720

"Respectfully,

"EDWARD S. RANKIN,

"Engineer in Charge, Bureau of Sewers."

Mr. Denman also presented the following resolution, which on motion was carried:

"WHEREAS, In accordance with the provisions of Chapter 146 of the State Laws of 1905, the Joint Meeting shall, before the first day of April in each year, make an estimate of and determine upon the probable cost and expense of maintaining and operating the Joint Sewer for the year beginning on said first day of April, and shall cause the same to be certified by the Secretary of the Joint Meeting to each of the contracting municipalities;

"THEREFORE BE IT *Resolved*, That the Joint Meeting hereby estimates and determines that the probable expense of maintaining and operating the Joint Sewer from April 1st, 1917, to April 1st, 1918, is the sum of $7,000.00;

"AND BE IT FURTHER *Resolved*, That the Secretary be and he is hereby directed to forward a copy of this resolution to the governing body of each of the contracting municipalities."

Mr. Denman moved that the proper authorities of Irvington be requested to take up the matter of the excessive flow of clean water from the Castles Ice Cream Plant and provide some means whereby it may be taken out of the Joint Sewer; and that the Engineer communicate this motion to Irvington and also to the Essex County Park Commission. Carried.

The annual report of the Secretary was read and on motion received:

"Joint Meeting:

"Gentlemen:—

"In accordance with the usual custom I submit herewith trial balance as of April 1, 1917.

SECRETARY'S TRIAL BALANCE.

Cash in Orange National Bank in name of Wm. Rollinson	$ 16.92		
Cash as per Treasurer's Cash Book	71.17		
Petty Cash	100.00	Maintenance	$188.09
	$188.09		$188.09

"The principal items of expense incurred during the year are as follows:

Salaries, Engineer	$1,000.00	
" Secretary (including office)	422.00	
" Treasurer	250.00	
" Chief Inspector (including horse)..	2,040.00	
" Assistant Inspector	1,200.00	
" Counsel	250.00	
" Executive Committee	195.00	
		$5,357.00
Reprinting Old Minutes	$ 489.28	
Venturi meter	1,130.92	
Union Avenue sewer	403.66	
Manhole heads	264.00	
Telephone	77.92	
Printing current minutes	54.63	
Labor	188.00	
Miscellaneous	101.66	
		2,714.07
		$8,071.07

"Respectfully submitted,

"EDWARD S. RANKIN,
"Secretary."

The following bills were then read and, on motion, ordered paid after being approved by the Auditing Committee, 4 ayes, no noes:

Alexander Potter, February salary	$ 83.33
C. W. Sandford, February salary and horse	170.00
J. J. Keating, February salary	100.00
E. S. Rankin, February salary and office	35.16
Alex. Potter, March salary	83.33
S. H. Rollinson, Jan., Feb., Mar. salary	62.50

C. W. Sandford, March salary and horse	170.00
J. J. Keating, March salary	100.00
E. S. Rankin, March salary and office	35.16
N. Y. Telephone Co.	15.90
G. V. Boschen, wagon repairs	49.00
C. W. Pfeil, painting pipes	50.00
Weibezahl Print, printing minutes	4.17
Queen Gray Co., gauge charts	6.25
C. W. Sandford, expense account	5.76
J. J. Keating, expense account	4.45
E. S. Rankin, expense account	1.74
E. S. Rankin, Secretary, petty cash	42.00
	$1,018.75

On motion adjourned at 9:20 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 21, 1917.

Annual Meeting.

The Annual Meeting of the Joint Meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Present: Mr. Francis Speir, Chairman; and Messrs. A. R. Denman of Newark, H. J. Stanley of Irvington, E. G. Pringle of Summit, N. S. Bartow of South Orange and Dr. Wellington Campbell of Millburn. The Engineer, Treasurer and Inspectors were also present, together with Mr. Casey of Irvington.

The minutes of the last meeting were approved as printed.

Engineer Potter then presented his usual report:

"June 21, 1917.

"To the Joint Meeting:

"Gentlemen:—

"*Break on the Sixth Section of the Joint Trunk Sewer.*

"On Tuesday afternoon, May 22nd, the County Engineer of Union County notified my office that a break had been discovered in the Joint Trunk Sewer on Morris Avenue near the junction of Millburn Avenue. Not knowing the extent of this break, I consulted with the Chairman of the Joint Meeting, and also with Dr. Campbell, the representative from Millburn, and we concluded that it would be better to engage the services of a competent contractor to supply the men and material for the restoration of this sewer than to have our own inspector try to procure a gang and repair the break.

"The correspondence with the Union County authorities shows that they hold that the entire cost of the repairs to the sewer and the restoration of the street should be borne by the Joint Meeting. I have not been able to accept their viewpoint upon this proposition for the evidence is very clear in my mind that the immediate cause of the trouble was the construction of the amiesite roadway over the sewer about a year and a half ago, the sewer having functioned properly without any break for a period of twelve years. In constructing the amiesite pavement, as nearly as I can learn, the old roadbed, which was a telford macadam road in which the macadam had been practically worn down to the telford base, was scarified, additional broken stone added to make up the deficiency, and rolled with a ten-ton roller, and the two-inch coating of amiesite placed on top of that.

"There is abundant evidence to show that the county authorities had knowledge that the sheeting which had been left in when the sewer was constructed would be forced down by the rolling of the broken stone under the amiesite, and it was the forcing

down of the sheeting, which in turn carried down the braces which had been left within six inches of the top of the pipe, which caused the collapse of the sewer. In the construction of the sewer originally, the instructions to the contractors were to cut off this sheeting below the ground a sufficient distance so as not to interfere with the relaying of the heavy telford macadam base, but there is evidence to show that the contractor cut off the sheeting at points nearer to the surface.

"The evidence that the county authorities had knowledge of the proximity of the top of the sheeting to the surface of the ground is indicated by the fact that in the construction of the trolley line a few years after the construction of the sewer, the contractors building the trolley line actually dug down a foot below the bottom of their ties and removed the sheeting to the top of the first ranger. It is a fair assumption that had the sheeting been cut off well below the foundation of the pavement the break would less likely have occurred, and it is for this reason that I am of the opinion that, although the immediate cause of the break was due to the construction of the new roadway, there is a question as to the extent of the responsibility of the Joint Meeting. The Union County Engineer and their Counsel take the stand that the entire cost should be borne by the Joint Meeting, and on Tuesday of next week they have a meeting in Elizabeth at which they have invited me to be present. In the meantime I will confer with Counsel for the Joint Meeting, place the facts before him and be guided by what he says in reference to the responsibility of the Joint Meeting. I ask the authority of the Joint Meeting to reach an agreement with the Union County authorities in reference to the expense of reconstructing the sewer and restoring the pavement.

"There is abundant evidence to prove that the forcing down of the sheeting carried down the braces. This is shown by photographs taken by Inspector Keating, also by measurements taken by your engineer, which show that one of the horizontal rangers was carried down at the rate of 5 inches in 8 feet in the direction of the break.

"On digging down to the pipe we found that three pipes had been completely smashed, and on uncovering the line on either side of the break we found that the break extended a distance of 161 feet. The break was repaired by digging down around the pipe that was cracked but was not ruptured and enveloping it in concrete. Twenty-four feet of the pipe was removed entirely and replaced with 24-inch pipe, which was also encased in concrete. It is the common experience with sewer pipe not imbedded in concrete to find that the broken pipe transmits the strain to the adjacent pipe, and so on from pipe to pipe, so that the whole stretch between manholes will crack from the primary cause of one smashed pipe. Where the work of repair was stopped at the lower

end there was still a slight crack in the pipe, but as there was no evidence of any settlement whatever beyond this pipe it was deemed advisable to terminate the work of reinforcement without carrying the work to the manhole next below.

"The total cost of labor and material according to the bill submitted by Mr. Dorer, and which has been checked up by Inspector Keating against his own record of the time of the men and materials brought upon the ground, is $748.09, to which has been added ten per cent. profit to the contractor, making the total cost of the work $822.89. I would recommend the payment of this bill.

"*Venturi Meter at West Orange Line.* We experienced from time to time difficulty in getting accurate records from the Venturi meter, due to the fact that the clock apparatus purchased with the meter did not function properly. After repeated efforts to rectify the trouble, the manufacturer removed the clock and gave us a new one, since which time we have experienced no trouble and the records taken are accurate. It is pleasing to again report that at no time since the installation of the Venturi meter has there been any overflow in the South Orange line, nor has the allotted capacity of West Orange been exceeded. The chart for the week ending March 18th, submitted herewith, shows that on Saturday, March 17th, the flow from West Orange was 3,500,000 for a period of half an hour, whereas their capacity is 3,528,000. This is the nearest approach to their capacity since the installation of the Venturi meter, whereas before its introduction the trunk sewer through South Orange Village was surcharged on very many occasions.

"In connection with the installation of the Venturi meter just referred to, I have secured from Mr. John Dorer a statemen of the actual cost of constructing the Venturi meter chambe. The total cost of this work to the contractor was $1311.09. It will be recalled that Mr. Dorer was paid $890.92 for this work in December, and the matter of claim for additional compensation was left for investigation. In the construction of this work the contractor encountered a large gas main and also other material in excavation which was not contemplated when the work was contracted for. Since the construction of the weir chamber proper, Mr. Dorer, under the orders of your engineer, made additional attachments to the weir, which cost $14.72, making the total amount over and above payments already made $434.89. Mr. Dorer has credited us in his bill with eighteen condemned manhole heads which he took from us at $4.00 apiece. This bill is submitted to the Joint Meeting for appropriate action.

"The Inspectors report that the condition at the sewer outlet on each visit made by them continues to be inoffensive.

"The tendency of flood waters to undermine the foundation of the abutments of the pipe crossing of the Rahway River has

been rectified by the anchoring of trees which have formed a bar above the crossing, thus effectively stopping further erosion.

"I would suggest that the Chairman of the Joint Meeting be authorized to fix a date during July for the annual inspection of the sewer.

"Respectfully submitted,

"ALEXANDER POTTER."

On motion the report was ordered received and printed.

Regarding the break in the sewer on Morris Avenue, Dr. Campbell stated that he had inspected the break and had advised Mr. Potter to engage Mr. Dorer to make the repairs. Mr. Speir stated that he also had made an inspection and approved the employment of the contractor. Mr. Potter said that it was impossible to estimate the cost of the work in advance as there was no way to determine how many pipes were broken, and being an emergency it was thought advisable to proceed with the work at once.

Mr. Denman moved that the recommendation of the Engineer regarding the cost of repairing the sewer in Morris Avenue and the method of paying for same be referred to Counsel for his opinion and advice as to its proper liquidation and payment. Carried.

Dr. Campbell moved that the Engineer be given authority to attend the meeting of the Union County Board of Freeholders, and under advice of Counsel to come to some agreement with that body as to the payment for this work. Carried.

After an informal discussion on Mr. Dorer's bill for building the weir manhole in the sum of $1,311.09, upon which appears a credit of $890.92, made under date of December 14, 1916, based on the survey data of the Engineer, Mr. Denman moved that this matter be referred back to Mr. Potter with directions to submit to this body a detailed statement of the account from which the credit of December 14, 1916, is derived, and that the Engineer also procure from Mr. Dorer a restatement of his claim to conform with the motion passed at the meeting held December 14, 1916, indicating the amount of his contract, together with his claim for additional compensation for quicksand excavation and extra concrete used in the work; the Engineer to report both bills to this body at its next meeting. Carried.

It was moved and carried that the Annual Inspection be held on Friday, July 13th.

The report of the Treasurer was then read and on motion received and ordered printed:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on the Nineteenth day of April, Nineteen Hundred and Seventeen, the date of his last report, he had on deposit in the Orange National Bank the sum of Eighty-two Dollars and Thirty-seven Cents ($82.37), with warrants 2017 for Two Dollars and Fifty Cents ($2.50) and 2207 for Five Dollars ($5.) outstanding, so that the actual amount of cash on hand at that date amounted to Seventy-four Dollars and Eighty-seven Cents ($74.87).

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of Seventeen Hundred and Seventy-six Dollars and Ninety-two Cents ($1776.92), as shown on Schedule 1, hereunto annexed, so that the total amount of cash on hand was the sum of Eighteen Hundred and Fifty-one Dollars and Seventy-nine Cents ($1851.79).

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule 2, hereunto annexed, amounting to Nine Hundred and Fifty-six Dollars and Twenty-five Cents ($956.25), so that he now has on deposit in the Orange National Bank the sum of Nine Hundred and Three Dollars and Four Cents ($903.04). Warrants above referred to amounting to Seven Dollars and Fifty Cents ($7.50) are still outstanding, so that the actual amount of cash on hand at the date of this report is the sum of Eight Hundred and Ninety-five Dollars and Fifty-four Cents ($895.54).

"All of which is respectfully submitted this Twenty-first day of June, Nineteen Hundred and Seventeen.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1917.			
Apr. 19.	Balance	$ 74.87	
" 23.	Millburn	250.00	
" 20.	William Rollinson, Treasurer	16.92	
" 30.	Newark	500.00	
May 1.	Irvington	250.00	
" 2.	West Orange	250.00	
" 4.	Summit	250.00	
" 7.	South Orange	250.00	
" 29.	Walter Shelton	10.00	
	Cash on hand		$1,851.79

SCHEDULE 2.

1917.			
Apr. 20.	N. Y. Telephone Co.	$ 15.90	
" 20.	G. V. Boschen	49.00	
" 20.	C. W. Pfeil	50.00	
" 20.	Weibezahl Print	4.17	
" 20.	Queen Gray Co.	6.25	
" 20.	C. W. Sandford	5.76	
" 20.	J. J. Keating	4.45	
" 20.	E. S. Rankin	1.74	
" 20.	E. S. Rankin, Sec'y	42.00	
" 30.	Alexander Potter	83.33	
" 30.	C. W. Sandford	170.00	
" 30.	J. J. Keating	100.00	
" 30.	E. S. Rankin	35.16	
May 31.	Alexander Potter	83.33	
" 31.	C. W. Sandford	170.00	
" 31.	J. J. Keating	100.00	
" 31.	E. S. Rankin	35.16	956.25
	Cash on hand		$ 895.54

The Secretary stated that the item of $10.00 from Walter Shelton was for a tap fee collected by him for a connection with the Joint Sewer in Springfield Township.

Mr. Campbell presented the supplemental report of Lovejoy, Mather and Hough, expert accountants. On motion the report was received and ordered printed:

"June 8, 1917.

"George F. Seymour, Jr., Esq.,
"Chairman—Auditing Committee, Joint Meeting,
"South Orange, New Jersey:

"Dear Sir:—

"According to instructions received, we have completed the audit of the books and accounts of the Secretary and Treasurer of the Joint Sewer Meeting, from April 1, 1914, to February 28, 1915, inclusive. This, together with our previous examination, as reported by us on April 18, last, now completes the audit in full for the entire time subsequent to the period covered by your previous Auditor.

"The summary of the transactions for the above mentioned intervening period from April 1, 1914, to February 28, 1915, is as follows:

Receipts:
South Orange 4th Quarter 1912 Assessment ..... $ 250.00

Assessments made and collected during the period ..		7,000.00
Interest allowed by Bank		10.57
		$7,260.57
Disbursements (Warrants 2077 and 2165 inclusive)	$5,610.96	
Bank overdraft—April 1, 1914 (as reported per Minutes of March 11, 1915)	41.67	5,652.63
Cash in Bank March 1, 1915 (Treasurer's Account), as per our previous Report		$1,607.94

"The assessments and miscellaneous income have been verified by us with the minutes of the Committee and also traced to the Bank Pass Book.

"Warrants from 2077 to 2165 inclusive, covering all disbursements, were inspected and found to be in order.

"Yours very truly,

"LOVEJOY, MATHER & HOUGH."

Dr. Campbell reported the case of a man whose property fronted on Morris Turnpike with the rear on Morris Avenue and raised the question as to whether he legally abutted on the Joint Sewer. It was moved that the Secretary be instructed to obtain an opinion from Counsel. Carried.

The following resolution was then presented, and on roll call carried, 4 ayes, no noes. Mr. Pringle having been excused.

"Resolved, That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750, which shall be assessed upon the joint municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further, that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"Resolved, That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days from the 21st day of June, 1917.

"This is the assessment for the 2nd quarter of 1917."

The Chairman announced that this was the time for the annual election of officers. Dr. Campbell moved that all of the present officers be re-elected. Carried.

The Chair appointed Dr. Campbell and Messrs. Corr and Bartow as the Auditing Committee.

Mr. Stanley moved that the Secretary be directed to obtain from Counsel an opinion as to whether it was necessary to advertise for bids for work estimated to cost more than $500.00, this having been heretofore the custom of the Joint Meeting. Carried.

The following bills were read and on motion ordered paid after being properly audited, 4 ayes, no noes:

Alexander Potter, April salary	$ 83.33
C. W. Sandford, April salary and horse	170.00
J. J. Keating, April salary	100.00
E. S. Rankin, April salary and office	35.16
Alexander Potter, May salary	83.33
C. W. Sandford, May salary and horse	170.00
J. J. Keating, May salary	100.00
E. S. Rankin, May salary and office	35.16
N. Y. Telephone Co.	11.15
Weibezahl Print, April 19 Minutes	11.27
Lovejoy, Mather & Hough, auditing books	50.00
Francis Speir, Executive Commitee	15.00
E. G. Pringle, Executive Committee	10.00
Wellington Campbell, Executive Committee	15.00
A. R. Denman, Executive Committee	15.00
H. J. Stanley, Executive Committee	10.00
G. F. Seymour, Jr., Executive Committee	10.00
P. J. Corr, Executive Committee	10.00
N. S. Bartow, Executive Committee	5.00
C. W. Sandford, expense account	3.25
John J. Keating, expense account	5.00
E. S. Rankin, Secretary, petty cash	24.00
Alex. Potter, June salary	83.33
S. H. Rollinson, April, May, June salary	62.50
C. W. Sandford, June salary and horse	170.00
J. J. Keating, June salary	100.00
E. S. Rankin, June salary and office	35.16

On motion adjourned at 10 P. M.

EDWARD S. RANKIN,
Secretary.

Annual Inspection, July 13, 1917.

The annual inspection of the Joint Sewer was held on Friday, July 13th, automobiles leaving the Newark City Hall at 10:30 A. M.

Those making the inspection were Chairman Francis Speir, Mr. A. R. Denman, representing Newark; E. G. Pringle, Summit; H. J. Stanley, Irvington; F. Forlenza, South Orange, and Dr. Campbell, Millburn; also Mayor Franklin of Summit, Chairman Coaney of Millburn, Clerk Fitzsimmons of South Orange and Freeholder LaCombe and Engineer Casey of Irvington. Engineer Potter, Inspectors Sandford and Keating and the Secretary were also present.

Engineer Potter had prepared maps of the route to be followed and a brief report on the several features to be inspected.

The first stop was made at the Castle's Ice Cream Plant, where an inspection was made of the large volume of clean water, 200,000 gallons per day which is being continuously discharged into the sewer.

From this point the route lay through the southern and western sections of Irvington. Quoting from Mr. Potter's report:

"The abnormal growth of the territory served by the Joint Trunk Sewer has to-day created the volume of flow in the sewer that was looked for ten years hence on the basis of a normal growth. This abnormal flow is not uniform over the entire area; for instance, one of the sections contributing heavily in excess of its assumed capacity at this time is the Lyons Avenue section of Newark and the manufacturing section adjacent thereto in Irvington.

"Satisfactory relief of the lines actually affected, or likely to be affected, by surcharge can be secured if Irvington in developing its system of trunk sewers over the area undeveloped at present will make the sewers large enough to permit the diversion of the entire flow from the territory referred to above, comprising 94 acres of Irvington and 135 acres of Newark.

"The Joint Trunk Sewer in Irvington has been charged with responsibility for the odors which emanate from the sewers in Irvington, both joint sewers and laterals. The fact that the consensus of opinion among sanitary engineers is that the whole trouble can readily be produced by the presence of the house trap (until recently made mandatory in Irvington) and inadequate flushing, has not convinced many people that in some way or other the Joint Trunk Sewer is not responsible.

"It was thought desirable, therefore, to conduct to-day a simple and effective test to show that sewer gas and consequent odors travel from the high sewer, or lateral, to the lower sewer, or trunk sewer. Two tests will be made, one at the lower end of Irvington on Union Avenue, the second at the center of Irvington on Augusta Street. The test consists of the placing of a large wire cage, filled with tar paper set on fire, in the bottom of the manhole. It will be observed that the smoke created rises out of the stand pipes connected with the houses. Little, if any, smoke passes up the sewer."

The test proved conclusively the desirability of omitting all house traps on the system.

The next stop was made at the Venturi Meter on the South Orange-West Orange line.

"The installation of the Venturi Meter has shown not only that preventable leakage exists in the sewer, but that such leakage can be remedied. What is true at one point is true at other points of the sewer. Every gallon of leakage that can be cut out increases the capacity of the sewer. This has a direct bearing on the South Orange Township situation.

"South Orange Township is approaching the capacity she has purchased in the Joint Trunk Sewer and is seeking additional capacity. It has seriously considered a local disposal plant, located in the geographical center of the territory served by the Joint Trunk Sewer. This idea, however, has been abandoned. It is now considering the Rahway Valley project.

"The logical solution of its problem is to join forces with Summit, Millburn, South Orange Village and West Orange. The inspection made to-day will show that the great and healthy growth over the territory that is served by the Joint Trunk Sewer means that sooner or later all of these municipalities will require additional sewerage facilities. Ways and means should be possible that will permit South Orange Township to secure additional sewerage capacity to serve her until all these towns need additional capacity. South Orange Village and Millburn can safely loan capacity to South Orange Township, pending enlargement of the sewer, provided satisfactory financial arrangements can be made. This should not be a difficult thing. South Orange Township's growth has been made possible by the rights secured from South Orange Village and Millburn, and it will doubtless be willing to assist these towns in the securing of an enlarged sewer, if in the meantime it can be assured of sufficient capacity to meet its growing needs."

After inspecting the Venturi Meter the party was entertained at luncheon at the Essex County Country Club as the guests of Mr. Speir.

Following the luncheon, short speeches were made by Mayor Franklin, Mr. Potter, Dr. Campbell, Mr. Pringle, Mr. Forlenza, Mr. LaCombe and Mr. Stanley, Mr. Denman acting as toastmaster. The Secretary then proposed the following toast, which was drunk standing, and which on motion put later by Mr. Denman was ordered spread on the minutes:

"To the man to whom more than to any other single individual is due the credit for the inception, the rapid construction and the successful operation of the Joint Trunk Sewer:

"In the coming years may his joys be as many as the pipes of which the sewer is constructed and his sorrows as few as the quarrels which have enlivened the deliberations of the Joint Body.

"May the good things of life exceed the allotted capacity of his cup to receive them, so that, unlike the sewer, it will continually overflow with blessings, and may time for him flow smoothly and peacefully onward as flows the sewage from his native village to the sea. To our genial host, Mr. Francis Speir."

In responding Mr. Speir gave a brief history of the undertaking, dwelling principally on the pleasant relations which have always existed between the contracting municipalities and between their representatives in the Joint Meeting and emphasizing the fact that politics had never influenced any of their actions.

After leaving the Country Club a visit was made to the point on Morris Avenue where the recent break occurred. The party then proceeded to the outlet, stopping at the tunnel and at the crossing of the Elizabeth River, returning to Newark about 5 P. M.

Edward S. Rankin,
Secretary.

Joint Meeting of October 11th, 1917.

A regular meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Present: Chairman Speir, Dr. Campbell of Millburn and Messrs. Denman, Newark, Corr, West Orange, Bartow, South Orange and Pringle, Summit. The Engineer, Treasurer and Inspectors were also present.

The minutes of the last meeting were approved as printed.

The Engineer then read his usual report:

"October 11, 1917.

"The Joint Meeting:

"Gentlemen:—

"At a previous meeting your Engineer was authorized to confer with the Essex County Park Commission or their engineer in the matter of the utilization of the clean water from the Castles Ice Cream factory which is now being discharged into one of the laterals of the Joint Trunk Sewer, and determine whether or not this water could be used by the Park Commission in connection with the water supply feeding the pond in the Essex County Park facing on Augusta Street in Irvington. As a result of a conference held in pursuance of this instruction, I would report that the engineers of the Essex County Park Commission cannot see their way clear to advise the Commission to expend any money in piping this waste water to their pool even upon the assumption that the water is perfectly clean, for several years ago they were forced to sink an artesian well which supplies sufficient water not only to take care of all the evaporation that might occur from the body of water in the pool but to provide at all times a definite overflow from the lake.

"The continued discharge of this waste water into one of the Newark sewers is only serious because the particular branch of the Joint Trunk Sewer leading from Newark to the main sewer is often overloaded. With the normal increase in growth of the Town of Irvington it will not be long before Irvington will be obliged to build a sub-main for the southwest quarter of the Town substantially along the line which was traversed at the last Annual Inspection, and when this line is built it will be built of sufficient capacity so that the flow from the Castles Ice Cream factory will not cause any overflow.

"This will be one solution of this vexing problem, and another will be the extension of Irvington's storm sewers to the factory district lying along the border line between Irvington and the City of Newark.

"Inspector Sandford has advised your Engineer that the Dibble recording meters which have been in service from the inception of the sewer are gradually wearing out, and the cost of making repairs to them and the failure during the time of these repairs to record the flow of sewage at various points in the system, warrant the abandonment of these meters and replacing them with new ones. During the next year or eighteen months we should have six of these meters replaced, but we are in immediate need of three meters, and I ask for instructions to order from the Jules Richards Co., of Paris, three of their meters of the type now in use. We have two of these meters in service at the present time, giving good service. The cost of these meters when purchased was $67.00 each; the present price is $75.00.

"At the June meeting the matter of the claim of John Dorer for $420.17 in excess of that already allowed him for the construction of the weir manhole was referred back to me with instructions to submit a detailed statement of the account from which the credit of December 14th is derived, and that I procure from Mr. Dorer a statement of his claim to conform with the resolution of the Joint Meeting under date of December 14, 1916. I submit herewith correspondence which has passed between Mr. Dorer and myself since the last meeting.

"Mr. Dorer in his letter raises an important point not heretofore considered, namely, that the chamber for the Venturi meter was placed three hundred feet from the location upon which the bid was made. The importance of this change was not considered by me in making my recommendation originally for the payment of $890.92. This change was made necessary by reason of the fact that at the point originally decided upon the adjoining property owner refused to give us access to his land and the right-of-way at that point was not sufficiently wide to permit of the construction of the weir manhole wholly upon the right-of-way controlled by the Joint Meeting. At the location finally selected the owner gave us permission to use as much land as was necessary.

"There is no question but that this change in location would justify the contractor in claiming the abrogation of his contract and demanding payment for the work at force account even though he might have had the same difficulties to contend with had the original location been available for the construction of the weir chamber. Under the circumstances, therefore, I am of the opinion that in expressing a willingness to accept actual cost for the work, the contractor is entitled to the payment of his claim as set forth in his letter of September 28th, and I so recommend. The balance claimed by Mr. Dorer is $434.89. This amount includes $14.72 for making additional attachments to the weir in accordance with your Engineer's instructions after the weir chamber proper was constructed, which additional item was presented for payment at the meeting of June 21st and approved by me. Mr. Dorer's account, however, must be charged with 18 old man-

hole heads at $4.00 each, or $72.00, so that the balance due him from the Joint Meeting is $362.89 if the above recommendation is concurred in.

"The Secretary, Mr. Rankin, and your Engineer had a conference with Counsel on the afternoon of October 9th in reference to certain matters which they were asked to take up with Counsel. One matter referred to the payment of bills in excess of $500.00 without the work having been advertised. Counsel reaffirmed his former opinion that work involving a sum of more than $500.00 should not be undertaken without a contract; whereas upon emergency work where the delay incident to advertising for bids might be disastrous, or upon work the value of which might seem in starting to be less than $500.00, the prohibition of the statutes in relation to the advertising of public work in excess of $500.00 had no application. He advised specifically that the work done by John Dorer on Morris Turnpike, which bill amounts to $822.89, could be paid for if the amount of the bill therefor is found correct, and that in this instance the statutes relating to the advertisement of the work had no binding force upon the Joint Meeting.

"We also took up with Counsel the question of new legislation required by the Joint Meeting. One of the matters taken up pertained to the preparation of a bill which would give the Joint Meeting greater authority than they have at present over persons interfering with the sewer.

"We have a case in point where the offender happens to be Essex County. The County has started the construction of a large storm drain extending from the Rahway River up Roland Avenue in the Town of Millburn. Not more than fifty feet of this line was laid, without any plan on paper, until they encountered our joint sewer on Millburn Avenue near the South Orange-Millburn line. The axis of this 5-ft. storm drain and the axis of our sewer are on the same horizontal plane. They have uncovered our sewer and a portion of the manhole is in the line of their excavation. The engineers of Essex County have informed me that they will do nothing that will interfere with our sewer, but orders had been given to proceed with the work of crossing our sewer without submitting any plan which would show how it was proposed to protect our pipe either during construction or when the storm drain was in operation. In view of the possibility of a storm which would flood the ditch and probably affect our sewer, I have given instructions to our inspectors to fill up the ditch until such time as proper plans can be submitted by the County authorities and approved by your Engineer.

"Since the last meeting the authorities of Union Township have had an application from the Hind steel mill, employing twenty-five men, for permission to connect with the sewers in Union Township. I have investigated this matter to see whether or not the wastes from this mill would be prejudicial to the Joint Meeting, and I am informed that nothing of an alkaline or acid

nature will be discharged into the sewers. Under these circumstances I have advised the Union Township authorities that so far as the Joint Meeting is concerned there could be no objection to their granting permission to this Company to connect up with the sewer, with the understanding, however, that the discharge from this mill is taxed against their quota in the Joint Trunk Sewer.

"Within the month we have made an investigation of the volume of sewage taken care of by the Joint Trunk Sewer and chargeable to Union Township. We find that at present there are connections to the Joint Trunk Sewer or laterals leading into the Joint Trunk Sewer, discharging sewage from Union Township, as follows:

15 one-family houses.
1 two-family house.
5 dairy barns, gross capacity 305 head.
1 school with 160 pupils enrolled.
1 factory employing 25 hands.

"My estimate of the total contribution to the Joint Trunk Sewer from these connections is less than 50,000 gallons per day. Union Township has the right to use 150,000 gallons per day before any payment is due the Joint Meeting from them, at which time $900.00 shall be paid.

"There is considerable talk about large developments in Union Township in the way of construction of mills and factories, which may use up very soon the capacity allotted to Union Township in the Joint Trunk Sewer, and the time may not be long before some action is taken by Union Township requesting additional capacity in the sewer.

"The heavy traffic on Bayway in Elizabeth, and the speed with which these heavy trucks pass over the manhole covers, have compelled us to change a number of the standard covers for covers of a heavier type. Arrangements were made whereby the City of Elizabeth replaced these covers for us, and because some difficulty arose in Elizabeth concerning the method of payment, it was agreed that the Joint Meeting should pay for six covers, whereas five covers were all that were needed at the present time, the cost of the sixth cover representing the value of the labor in replacing the old covers with the newer type. This bill has not been presented, but I would recommend that the Secretary be authorized to pay the bill when presented with the approval of the Inspector and Engineer, so as to obviate the necessity of awaiting payment until the next Joint Meeting.

"Referring again to the break on Morris Turnpike, and the responsibility for the repair of the break and the restoration of the road, your Engineer begs to report progress, and by the next Joint Meeting will have a definite report as to the expense that the Joint Meeting may have to meet in connection with this work.

"Respectfully submitted,

"Alexander Potter."

On motion the report was received and ordered printed.

Regarding meters, it was moved that the Engineer be authorized to purchase three of the Jules Richards Co. meters at a cost of $75.00 apiece. Carried: 5 ayes, 0 noes.

After some discussion as to best method of handling the Dorer claims for extra compensation on the Venturi meter chambers it was moved by Mr. Denman that a properly itemized bill be presented by Mr. Dorer, and if approved by the Engineer and Counsel, it be submitted at the next meeting. Carried.

The Dorer bill for work on the sewer break on Morris Turnpike was approved and ordered paid.

Regarding the action of the Engineer in ordering the filling of the County ditch on Millburn Avenue, it was moved that the action of the Engineer in protecting the Joint Sewer until the presentation by the County of a satisfactory plan for temporarily and permanently protecting the sewer be concurred in. Carried.

Mr. Potter explained at some length conditions in Union Township in connection with the proposed Rahway Valley sewer. He stated that there were only 800 acres of the Township in the Rahway River Valley against 6000 acres in the Elizabeth River Valley through which the Joint Sewer runs.

Moved, that the recommendations of the Engineer regarding new manhole heads on Bayway be concurred in. Carried: 5 ayes, no noes.

The report of the Treasurer was read, and on motion received and ordered printed in the minutes.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on the Twenty-first day of June, Nineteen Hundred and Seventeen, the date of his last report, he had on deposit in the Orange National Bank the sum of Nine Hundred and Three Dollars and Four Cents ($903.04), with warrants 2017 for Two Dollars and Fifty Cents ($2.50) and 2207 for Five Dollars ($5.) outstanding, so that the actual amount of cash on hand on that date amounted to Eight Hundred and Ninety-five Dollars and Fifty-four Cents ($894.54).

"The Treasurer further reports that since the date of his last report he had deposited in the Orange National Bank the sum of Seventeen Hundred and Fifty Dollars ($1750.), and has been allowed interest amounting to Four Dollars and Four Cents ($4.04), as shown on Schedule 1, hereunto annexed, so that the

total amount of cash on hand was the sum of Twenty-six Hundred and Forty-nine Dollars and Fifty-eight Cents ($2649.58).

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2, hereunto annexed, amounting to Eighteen Hundred and Seventy-three Dollars and Sixty-three Cents ($1873.63), so that he now has on deposit in the Orange National Bank the sum of Seven Hundred and Eighty-three Dollars and Forty-five Cents ($783.45); warrants above referred to amounting to Seven Dollars and Fifty Cents ($7.50) are still outstanding, so that the total amount of cash on hand at the date of this report is the sum of Seven Hundred and Seventy-five Dollars and Ninety-five Cents ($775.95).

"All of which is respectfully submitted this Eleventh day of October, Nineteen Hundred and Seventeen.

"S. H. Rollinson,
"Treasurer."

Schedule 1.

1917.			
June	21.	Balance	$895.54
"	30.	Newark	500.00
July	2.	Irvington	250.00
"	5.	West Orange	250.00
"	5.	Summit	250.00
"	5.	Millburn	250.00
Sept.	26.	South Orange	250.00
		Interest	4.04
			$2,649.58

Schedule 2.

1917.			
June	22.	N. Y. Telephone Co.	$ 11.15
"	22.	Weibezahl Print	11.27
"	22.	Lovejoy, Mather & Hough	50.00
"	22.	Francis Speir	15.00
"	22.	E. G. Pringle	10.00
"	22.	Wellington Campbell	15.00
"	22.	A. R. Denman	15.00
"	22.	H. J. Stanley	10.00
"	22.	G. F. Seymour	10.00
"	22.	N. S. Bartow	5.00
"	22.	C. W. Sandford	3.25
"	22.	J. J. Keating	5.00
"	22.	P. J. Corr	10.00
"	22.	E. S. Rankin, Sec'y	24.00
"	29.	Alexander Potter	83.33
"	29.	S. H. Rollinson	62.50

"	29.	C. W. Sandford	170.00
"	29.	J. J. Keating	100.00
"	29.	E. S. Rankin	35.16
July	31.	Alexander Potter	83.33
"	31.	C. W. Sandford	170.00
"	31.	J. J. Keating	100.00
"	31.	E. S. Rankin	35.16
Aug.	31.	Alexander Potter	83.33
"	31.	C. W. Sandford	170.00
"	31.	J. J. Keating	100.00
"	31.	E. S. Rankin	35.16
Sept.	29.	Alexander Potter	83.33
"	29.	S. H. Rollinson	62.50
"	29.	C. W. Sandford	170.00
"	29.	J. J. Keating	100.00
"	29.	E. S. Rankin	35.16
			1,873.63
		Cash on hand	$ 775.95

The following resolution was then presented and on motion passed: 5 ayes, no noes:

"Resolved, That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750, which shall be assessed upon the joint municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further, that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"Resolved, That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 11th day of October, 1917.

"This is the assessment for the third quarter of 1917."

The Secretary reported that in answer to Dr. Campbell's question regarding abutting property at the last meeting, he had consulted Counsel, who advised that the property referred to abutted on both streets.

Mr. Denman brought up the question of the proposed new contract between the municipalities, and it was moved and carried that the Secretary be requested to take up the matter with Mr. Stanley with a view to presenting it to the Irvington authorities.

The Chair appointed Mr. Denman as Chairman of the Legislative Committee.

The following bills were read and ordered paid, after being approved by the Auditing Committee:

Alexander Potter, July salary	$ 83.33
C. W. Sandford, July salary and horse	170.00
J. J. Keating, July salary	100.00
E. S. Rankin, July salary and office	35.16
Alexander Potter, August salary	83.33
C. W. Sandford, August salary and horse	170.00
J. J. Keating, August salary	100.00
E. S. Rankin, August salary and office	35.16
Alex. Potter, September salary	83.33
S. H. Rollinson, July, August and September salary	62.50
C. W. Sandford, September salary and horse	170.00
J. J. Keating, September salary	100.00
E. S. Rankin, September salary and office	35.16
Adrian Riker, retainer for year	250.00
American Surety Co., Treasurer's bond	20.00
Weibezahl Print, Minutes of June and July Meeting	11.88
N. Y. Telephone Co., 4 months	25.35
C. W. Sandford, expense account	5.90
J. J. Keating, expense account	2.35
E. S. Rankin, expense account	2.38
E. S. Rankin, Secretary, petty cash	46.00
John Dorer, repairs on Millburn Avenue	822.89
	$2,414.72

On motion adjourned at 9:40 P. M.

E. S. Rankin,
Secretary.

Joint Meeting of December 6, 1917.

A regular meeting of the Joint Meeting was held at the South Orange Village Hall on the above date at 8 P. M.

Those present were Francis Speir, Chairman, Dr. Wellington Campbell of Millburn, Messrs. N. S. Bartow of South Orange, H. J. Stanley of Irvington, E. G. Pringle of Summit and H. R. VanDuyne of Newark. The Engineer and Inspectors were also present, also Mr. Casey of Irvington.

The Secretary called attention to the omission in the last minutes in the list of bills approved at the last meeting of C. Wolber Co. bill for stationery in the amount of $15.50. With this correction, the minutes were approved as printed.

The Engineer read his usual report:

"Dec. 6th, 1917.

"Joint Meeting:

"Gentlemen:—

"At the last meeting your Engineer was authorized to purchase three recording gauges to replace three of the old Dibble gauges which have been worn out by long usage. In taking this matter up with the Jules Richard Co., they advised me that there had been a substantial increase in price made, to be effective the first of the coming year. As all of the Dibble gauges are worn out and should be replaced within the next six months, I would recommend the authorization of the purchase of three more gauges, and the immediate placing of the order for them, delivery to be made when called for. By this action we will probably save the cost of one of the instruments.

"I submit herewith two bills prepared by Mr. Adrian Riker, Counsel for the Joint Meeting, which I have gone over carefully, and would recommend that Counsel be authorized to have these bills introduced early in the coming Legislature.

"The conditions which have existed in Grove Street in the Town of Irvington during the months of October and November exemplify the great need for the prompt passage of the bill making it illegal for any person not connected with the Joint Trunk Sewer to interfere with it.

"Referring more particularly to this trouble:

"On October 15th a stoppage in the Grove Street sewer was reported. It seems that the contractor for the resurfacing of Grove Street found it necessary, of course, to interfere with the manhole covers of the Joint Trunk Sewer. Instead of taking due precaution in connection with these manholes, the covers were

ripped off and the top courses of brick work, instead of being removed by hand, to suit the new grade to the street surface, were carelessly torn off and dropped into the manholes and carried down through the sewer, completely stopping the flow of the sewer.

"It is a difficult thing to definitely locate the exact point of stoppage in a sewer without making numerous holes from the surface of the street to determine where the stoppage occurs. Excavation from the surface is always expensive and destroys the pavement and prevents the immediate construction of the pavement over the new trench. One stoppage was reported by our Inspectors on October 15th to October 18, and another occurred on November 6th, which required the work of our Assistant Inspector with two men from November 6th to November 12th to ascertain and relieve the cause of the stoppage. At one point two bricks and a half brick cemented to smaller pieces of brick were removed from the sewer. This repair should have been made more promptly had it not been the thought of Inspector Sandford that relief would be effected at any moment by rodding through the sewer and thus preventing the necessity of tearing up the street.

"The Inspector has kept an exact account of the cost and expense of these repairs and I am of the opinion that the total cost, not only of the labor employed, but of the services of our Inspectors upon this work should be charged up and collected from the contractor responsible for this stoppage.

"On the 11th of November, in connection with the stoppages, Commissioner Stanley, of Irvington, ordered out the fire engine to assist in reducing the water level in the sewer, and while the service of the engine was of little value, due to the fact that the paper and other floating matter in the sewage would stop up the suction holes, still an honest effort was made in this way to relieve the situation, and the cost of this engine service should also be charged up against the contractor.

"I beg to report that the Essex County Engineers submitted a satisfactory plan for the crossing over of the Joint Trunk Sewer by a double line of storm sewers. During the construction of this work your Engineer thought it advisable to have the Assistant Inspector, Mr. Keating, upon the job to see that the trunk sewer was not interfered with or endangered or injured in any way.

"In reference to the restoration of the ameisite pavement on Morris Turnpike near the Summit line, I received a bid from the contractor for $2.50 per sq. yd. for the restoration of this pavement, Counsel for the Joint Meeting having advised your Engineer that the Joint Meeting was legally responsible for the restoration of the street. The contractor is ready to start upon the construction of this work and I should like the authorization of the Joint Meeting in ordering the contractor to proceed with

this work. The total cost is stated by the contractor at $406.00, based upon the restoration of a pavement having a width of eight feet. I am of the opinion that a width of seven feet is sufficient, which will reduce the cost of this pavement approximately to $350.00.

"The County Engineer has, however, expressed the opinion that this pavement should be placed upon a concrete base, although neither your Engineer or any contractor who has built road work considers the placing of concrete under a section of a pavement as good practice. The County Engineer over the telephone to-day has stated to me that he will recede from his position in reference to the concrete base, so that I can see no reason why we cannot proceed with this repair work forthwith, without the danger of the Union authorities stating that it has not been done in compliance with the wishes of their engineer.

"Respectfully submitted,

"ALEXANDER POTTER."

On motion the report was received and ordered printed in the minutes.

Taking up the several recommendations contained in the report, it was moved that the Engineer be authorized to order three additional gauges at this time. Carried: 4 ayes, 0 noes.

The two bills prepared by Mr. Riker were read by the Chairman and, after some discussion, it was moved that Counsel be requested to have these bills presented at the next session of the Legislature. Carried.

Regarding the repairs to the Grove Street sewer, it was moved that after ascertaining the cost of these repairs, the Engineer be instructed to take up the matter with Counsel and obtain his advise as to how to proceed to collect the moneys due the Joint Meeting. Carried.

Moved that the repairs to the pavement on Morris Avenue be made by day labor, the Assistant Inspector to act as foreman under the direction of the Engineer. Carried: 5 ayes, 0 noes.

The report of the Treasurer was then read and on motion approved and ordered printed in the minutes:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen—:

"The Treasurer respectfully reports that on the 11th day of October, 1917, the date of his last report, he had on deposit in

the Orange National Bank, the sum of $783.45, with warrants 2017 for $2.50 and 2207 for $5 outstanding, so that the total amount of cash on hand at the date of this report was the sum of $775.95.

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank the sum of $1750., as shown on Schedule 1, hereunto annexed, so that the total amount of cash on hand was the sum of $2525.95.

"The Treasurer further reports that since the date of his last report, he has executed warrants, as shown on Schedule 2, hereunto annexed, amounting to $1979.23, so that the total amount of cash on hand at the date of this report amounts to the sum of $546.72. The warrants for this month's salaries amounting to $388.49, and the outstanding warrants hereinabove referred to, have not been presented for payment at the close of business, December 5th, so that the same are still outstanding, and deponent has, therefore, on deposit in the Orange National Bank the sum of $942.71.

"All of which is respectfully submitted this Sixth day of December, Nineteen Hundred and Seventeen.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1917.			
Oct.	11.	Balance	$ 775.95
"	23.	Newark	500.00
"	22.	Millburn	250.00
Nov.	8.	Summit	250.00
"	12.	West Orange	250.00
"	19.	South Orange	250.00
"	8.	Irvington	250.00
			$2,525.95

SCHEDULE 2.

1917.			
Oct.	15.	Adrian Riker	$ 250.00
"	15.	Weibezahl Print	11.88
"	15.	N. Y. Telephone Co.	25.35
"	15.	C. W. Sandford	5.90
"	15.	J. J. Keating	2.35
"	15.	E. S. Rankin	2.38
"	15.	C. Wolber Co.	15.50
"	15.	American Surety Co.	20.00
"	15.	John Dorer	822.89
"	15.	E. S. Rankin, Secretary	46.00
"	31.	Alexander Potter	83.33
"	31.	C. W. Sandford	170.00

"	31.	J. J. Keating	100.00
"	31.	E. S. Rankin	35.16
Nov.	28.	Alexander Potter	83.33
"	28.	C. W. Sandford	170.00
"	28.	J. J. Keating	100.00
"	28.	E. S. Rankin	35.16
			1,979.23
		Cash on hand	$ 546.72

The following resolution was then presented and on motion carried: 4 ayes, 0 noes:

"Resolved, That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750, which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further, that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"Resolved, That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 6th day of December, 1917.

"This is the assessment for the 4th quarter of 1917."

The Chairman announced that there was a vacancy in the office of Vice-Chairman, due to the retirement of Mr. Denman. Dr. Campbell and Mr. Pringle were nominated, and on a ballot being taken Mr. Pringle was declared elected.

The following bills were read and on motion ordered paid, after being approved by the Auditing Committee—4 ayes, 0 noes:

Alexander Potter, October salary	$ 83.33
C. W. Sandford, October salary and horse	170.00
J. J. Keating, October salary	100.00
E. S. Rankin, October salary and office	35.16
Alexander Potter, November salary	83.33
C. W. Sandford, November salary and horse ...	170.00
J. J. Keating, November salary	100.00
E. S. Rankin, November salary and office	35.16
Francis Speir, attendance at 3 meetings	15.00
H. J. Stanley, " " 2 "	10.00
E. G. Pringle, " " 3 "	15.00

Felix Forlenza,	"	"	1	"	..... 5.00
A. R. Denman,	"	"	2	"	..... 10.00
P. J. Corr,	"	"	1	"	..... 5.00
Wellington Campbell,		"	3	"	..... 15.00
N. S. Bartow,	"	"	2	"	..... 10.00
H. R. VanDuyne,	"	"	1	"	..... 5.00
Weibezahl Print, printing minutes					8.19
B. E. Larney, services for year 1916					10.00
J. J. Keating, expense account					2.25
E. S. Rankin, Sect., petty cash					49.50
N. Y. Telephone Co.					13.95
					$950.87

Moved that the Secretary be directed to secure copies of the bills introduced in the next Legislature. Carried.

The Chairman appointed Messrs. Harrison R. VanDuyne and Harry J. Stanley as the Legislative Committee.

On motion adjourned at 9:15 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of February 7, 1918.

A regular meeting of the Joint Meeting was held in the South Orange Village Hall on the above date at 8 P. M.

Present: Chairman Francis Speir; N. S. Bartow, representing South Orange; Dr. Campbell, Millburn; H. J. Stanley, Irvington; H. R. Van Duyne, Newark, and Charles Lehrer, West Orange. The Engineer, Treasurer and Inspectors were also present, and Engineers Casey of Irvington and Winston of West Orange.

Attention was called to an error in the minutes of the last meeting. In the election for Vice Chairman Dr. Campbell was declared elected. With this correction the minutes were approved as printed.

The report of the Engineer was read and on motion received and ordered printed:

"Feb. 7th, 1918.

"JOINT MEETING:

"Gentlemen:—

"Nothing unusual has occurred in connection with the maintenance of the Joint Trunk Sewer since the last meeting of the Joint Meeting.

"In reference to the Morris Avenue Road repair, Inspector Sandford, as instructed, made arrangements with Mr. John Schmidt, the contractor, to complete the repairs on the road to the satisfaction of the Township Engineer for the sum of Two Hundred and Eighty-eight Dollars ($288.00).

"The estimated cost of doing the work having the roller from Irvington, offered by Mr. Stanley free of charge, and doing the work by days' labor was $305.00. It seemed to your Engineer and to your Inspector to be the course of wisdom to have an upset price for this work, especially as it was very much below the bid of Weldon, the contractor recommended to us by the Union Township Engineer, which price was somewhere in the neighborhood of $400.00.

"Contractor Schmidt was about ready to start work when the bad weather and storm prevented, although action was taken to give him the work the next day after the Joint Meeting and the contractor promised to proceed with the work the following day. The delay is not an unmitigated evil, however; in fact the only reason for my recommending that the work be done in the fall was the insistence of the Township authorities that it be done. Going over to the spring we can be assured of a very much better and more workmanlike job.

"The heavy winter, including the severe freezes and heavy coating of snow, has again demonstrated the wisdom of free ventilation through the house traps, and without these house traps and with the manhole covers frozen solid, certain sections of the Joint Sewer system, viz., through Irvington and Vailsburg sections, where no ventilation is provided through the house traps, the inspector has found large accumulations of gas, so much so that in working in the sewers the inspectors were obliged to keep the manhole covers open from fifteen minutes to two hours before the sewer was safe to enter. The gas gives evidence of being illuminating gas, the leakage of the gas mains in the streets. Ordinarily this leakage travels along the line of least resistance upwards through the earth to the surface. These exits being closed by the frozen condition of the soil it travels horizontally until it finds the sewer joints and passes along the sewer. This gas is not given off in such quantities as to affect in any degree whatever the houses with open traps. The seriousness of the situation is due to the long accumulation of the gas in the sewer.

"The Inspector reports that there is a persistent gas leak in Nye Avenue, Irvington, formerly known as Cottage Street, and that the Public Service people have been searching for this leak unsuccessfully for some time. I have advised Inspector Sandford to get in touch with the Superintendent of the Public Service Corporation, advising him to make every effort to find this leak and remedy the same, for while there has been no serious difficulty in the past, this condition might become serious at any time.

"The flow in the sewers during the last three months has been unform. During the next two months, on account of the thawing of the heavy coating of snow, we can expect a very large increase in the flow. The weir gaugings taken in the South Orange Township sewer indicate the flow from that town has been slightly lower than last year, indicating that there need be no haste on the part of South Orange Township to supply inself with additional sewage facilities, their present capacity, purchased from Millburn and from South Orange, being all that they require.

"I regret to advise you that Mr. Earnest DuVivier, the agent of the Jules Richard Co., has notified me that the French Government has commandeered all apparatus belonging to the firm for war uses and that it is indefinite when the material we have ordered can be delivered. I had hoped to be able at this time to make a recommendation as to the price and time of delivery on some meter that could be purchased in the United States, but I have been unable to get sufficient or satisfactory information, either as to price or time of delivery to be able to make a report at this time. Mr. DuVivier has promised to advise me at the earliest possible moment if there is any possibility of delivery from him. The opinion of Mr. DuVivier is that these gauges might be

delivered in four months, but there is nothing certain regarding this.

"Respectfully submitted,

"ALEXANDER POTTER."

The Treasurer's report was then read and on motion received and ordered printed:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports, that on the 6th day of December, 1917, the date of his last report, he had on deposit in the Orange National Bank the sum of $942.71 with certain warrants outstanding, referred to in said report, so that the total amount of cash on hand amounted to at that time $546.72.

"The Treasurer further reports, that since the date of his last report, he has deposited in the Orange National Bank the sum of $1750., as shown on Schedule 1 hereunto annexed, so that the total amount of cash on hand amounted to $2296.72.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2 hereunto annexed, amounting to $1013.49, so that the total amount of cash on hand at the date of this report is the sum of $1283.23. Warrants 2017 for $2.50, 2207 for $5. and 2471 for $10. are now outstanding, so that he has, therefore, on deposit in the Orange National Bank the sum of $1300.73.

"All of which is respectfully submitted this Seventh day of February, Nineteen Hundred and Eighteen.

"SIMEON H. ROLLINSON,

"Treasurer."

SCHEDULE 1.

1917.			
Dec. 6.	Balance	$ 546.72	
" 12.	Irvington	250.00	
" 15.	Newark	500.00	
" 17.	South Orange	250.00	
" 19.	Summit	250.00	
" 24.	West Orange	250.00	
1918.			
Jan. 14.	Millburn	250.00	
			$2,296.72

SCHEDULE 2.

1917.		
Dec. 17.	Francis Speir	$ 15.00
" 17.	H. J. Stanley	10.00

"	17.	E. G. Pringle	15.00
"	17.	Felix Forlenza	5.00
"	17.	A. R. Denman	10.00
"	17.	P. J. Corr	5.00
"	17.	Wellington Campbell	15.00
"	17.	N. S. Bartow	10.00
"	17.	H. R. Van Duyne	5.00
"	17.	Weibezahl Print	8.19
"	17.	N. Y. Telephone Co.	13.95
"	17.	B. E. Larney	10.00
"	17.	J. J. Keating	2.25
"	17.	E. S. Rankin, Sect.	49.50
"	31.	Alexander Potter	83.37
"	31.	S. H. Rollinson	62.50
"	31.	C. W. Sandford	170.00
"	31.	J. J. Keating	100.00
"	31.	E. S. Rankin	35.24
1918.			
Jan.	30.	Alexander Potter	83.33
"	30.	C. W. Sandford	170.00
"	30.	J. J. Keating	100.00
"	30.	E. S. Rankin	35.16
			1,013.49
		Cash on hand	$1,283.23

The Secretary reported that the two Legislative Bills prepared by Counsel had been introduced into the Legislature.

He also submitted another bill which had been introduced, and which in the opinion of the Counsel might, if passed, be harmful to the Joint Meeting. On motion the Legislative Committee was requested to take the matter up with Counsel to see what steps could be taken to modify the provisions of the bill.

The following resolution was read and on motion passed, 5 ayes, no noes:

"Whereas, In accordance with the provisions of Chapter 146 of the State Laws of 1905, the Joint Meeting shall, before the first day of April in each year, make an estimate of and determine upon the probable cost and expense of maintaining and operating the Joint Sewer for the year beginning on said first day of April, and shall cause the same to be certified by the Secretary of the Joint Meeting to each of the contracting municipalities.

"Therefore be it Resolved, That the Joint Meeting hereby estimates and determines that the probable expense of maintain-

ing and operating the Joint Sewer from April 1st, 1918, to April 1st, 1919, is the sum of $7,000.00;

"And be it Further Resolved, That the Secretary be and he is hereby directed to forward a copy of this resolution to the governing body of each of the contracting municipalities."

The Secretary presented the following resolution:

"Resolved, That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750, which shall be assessed upon the joint municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"Resolved, That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 7th day of February, 1918.

"This is the assessment for the 1st quarter of 1918."

Carried: 5 ayes, no noes.

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee. 5 ayes, no noes:

Alexander Potter, December salary	$ 83.37
S. H. Rollinson, Oct. Nov. Dec. salary	62.50
C. W. Sandford, December salary and horse	170.00
J. J. Keating, December salary	100.00
E. S. Rankin, December salary and office ..	35.24
Alexander Potter, January salary	83.33
C. W. Sandford, January salary and horse	170.00
J. J. Keating, January salary	100.00
E. S. Rankin, January salary and office ..	35.16
Weibezahl Print, Minutes of Dec. 6	6.18
N. Y. Telephone Co., telephone service	21.10
C. W. Sandford, expense account	2.40
E. S. Rankin, expense account	1.36
E. S. Rankin, Sect., Legislative bills	10.00
	$880.64

On motion meeting adjourned at 9 P. M.

E. S. Rankin,
Secretary.

Joint Meeting of May 2, 1918.

A regular meeting was held in the South Orange Village Hall on the above date at 8 P. M.

Present: Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; Messrs. H. R. Van Duyne, Newark, N. S. Bartow, South Orange, and Charles Lehrer, West Orange. The Engineer, Treasurer and Inspectors were also present.

On motion the minutes of the last meeting were approved as printed.

The Engineer read his usual report, which was received and ordered printed.

"May 2nd, 1918.

"Joint Meeting,
"South Orange, N. J.

"Gentlemen:

"Several years have elapsed since a thorough cleaning of the Joint Trunk Sewers has been ordered. The sewers have been functioning satisfactorily and the rate of increase in the flows has seemed to be normal, except in some special cases. The abnormality in these special cases may be due to the unclean condition of the sewer, and consequently before submitting the records of flow which would indicate in some cases a very much larger rate of increase than would normally be expected, I would prefer to have these records checked as against sewers known to be clean before making these records public.

"I would therefore recommend that the Inspector be authorized to proceed with this cleaning of the sewers, especially along the upper stretches of the various branches. This work could not very well have been started much sooner in the season, and the Inspector has been at some embarrassment due to the fact that he has in the past been limited to the payment of two dollars per day for labor, whereas, it is impossible this year to secure laborers at that price. I would therefore recommend that a resolution be passed authorizing the payment of current rates of wages for laborers in connection with all Joint Sewer work.

"About a year and a half ago, acting under a resolution of the authorities of Irvington, I prepared and submitted a report as to the causes of the odors given off both from the Joint Trunk Sewer through Irvington and also in the laterals in Irvington. The investigations and examinations then made warranted the definite conclusion that the odors given off by the sewers in Irvington were due to two causes: Lack of ventilation and lack of flush-

ing, especially at the upper end of the Irvington Sewer System. That the odors from the sewers, contrary to what is commonly believed to be the case, traveled downwards and not upwards.

"As a result of this report, the superintendent of sewers in Irvington has conducted a more systematic method of sewer flushing and as a consequence during the last year the number of complaints concerning odors in sewers were greatly diminished.

"A continuation of this flushing and the gradual elimination of house traps will make complaints from objectionable odors as scarce in Irvington as in South Orange Village, for instance, where both systematic flushing and direct ventilation through the sewer has been effective since the construction of the system.

"Copies of this report were to have been made for distribution by the Irvington authorities in order to secure an intelligent discussion thereon, but as this has not been done I think it wise that this report should appear upon the minutes of the Joint Meeting, especially as the Joint Meeting was improperly charged with the responsibility of the odors complained of from time to time in the Town of Irvington.

"As an evidence of lack of ventilation in sewers, I would like to cite a recent case on Elizabeth's local system where the accumulation of gas in the sewers caused the blowing off of five manhole covers on Broad Street and one on East Grand Street. The latter blowing up under a wagon, causing a runaway.

"On the reconstruction of the roadway on South Orange Avenue, the Joint Meeting adopted a policy of replacing the standard manhole head with the extra heavy head adopted some years ago by Newark, to meet heavy city traffic. The county is about to undertake the re-pavement of Sandford Avenue and I would recommend that the same policy be adopted on this street and that the City of Newark be authorized to furnish at the expense of the Joint Meeting four heads, the covers of which will properly indicate that they are over the Joint Trunk Sewer. The letters 'J. T. S.' will be sufficient designation on the Newark standard.

"At a recent public meeting of Union Township on the question of entering the proposed Rahway Valley Sewer, the citizens voted against joining in with the Rahway Valley Sewer. A letter a copy of which is submitted here, written by your Engineer to Mr. Frank A. Sweezy, had some influence in bringing about this action. The Union Township authorities are desirous of connecting up in the near future certain portions of the Township with the Joint Trunk Sewer.

"The Secretary will report the receipt of a check for Seventy three dollars from the contractor having in charge the reconstruction of the road on Grove Street for the expense incurred by the Joint Trunk Sewer in cleaning out the sewer on Grove Stree

due to the carelessness of his men in interfering with the manhole during the time this road repair was being done.

"The repairs to Morris Turnpike have not yet been undertaken due to the fact that the contractor having the Amiesite plant will not start the operation of the plant until the first part of May.

"Contractor Schmidt, who has this contract, advises us that the Amiesite plant will start cooking Amiesite between the first and fifteenth of the month and that he has an agreement to secure the first material put out from the plant.

"We have received no bill from the City of Elizabeth for the manhole heads ordered by them on our account with the approval of the Joint Meeting.

"The Inspector reports a recurrence of the same trouble we were subjected to several years ago by reason of the school boys removing the covers of the Joint Trunk Sewer. A recent interference with the sewer in the dumping of large stones into it caused a temporary stoppage of the sewers. The Inspector has taken this up with the school superintendent, who has promised to do what she can to prevent a recurrence of this trouble.

"When in Washington recently, your Engineer had the pleasure, as well as the honor of spending an evening with General J. G. D. Knight, formerly a representative for Summit on the Joint Trunk Sewer Commission, but now Chairman of the District Commissioners of Washington, D. C., which means that friend General Knight is now practically Mayor of the Capital City of our Country.

"General Knight especially requested me to convey to the members of the Joint Meeting his most cordial remembrances and best wishes, and expressed himself as having taken the keenest interest and delight in his attendance in former years upon the meeting of our Joint body, which he recalled with great pleasure. General Knight further expressed the hope that the day was not far distant when the new contract for maintenance, which General Knight himself introduced before the Joint Meeting, would be accepted by all of the constituent members of the Joint Meeting.

"I enclose a bill for Ernest H. Duvivier for five hundred charts for Richard Level Recorder of Nineteen dollars.

"Respectfuly submitted

"ALEXANDER POTTER."

"'March 26th, 1918.

"'MR. FRANK A. SWEEZY,
"'Vauxhall, N. J.

"'Dear Sir:

"'In response to your verbal inquiry of today in reference

to the Joint Trunk Sewer which passes through Union Township, I have this to say.

" 'The contract between the Joint Trunk Sewer and Union Township gives Union Township the right to use the Joint Trunk Sewer in any part of the Township to the extent of 375,000 gallons per day.

"This right is a right that belongs to Union Township as a whole; consequently the sewerage facilities and capacity in the Joint Trunk Sewer which were originally used by the El Mora district of Union Township are no longer a charge against Union Township, and the right to the whole of the 375,000 gallons per day reverts to Union Township, less any capacity that is used by other persons throughout the Township.

" 'My estimate of the amount of use now being made by Union Township is less than 100,000 gallons per day, even allowing for the sewage from those plants which have been built or which now contemplate building within the Township.

" 'The extent to which the sewage rights now held by Union Township can be utilized depends altogether upon the care which is taken in the construction of the lateral sewers, and based upon recent experience, 275,000 gallons per day will provide sewerage facilities for not less than six hundred houses.

" 'There is no question but that the owners of the Joint Trunk Sewer will willingly dispose of additional capacity to Union Township when it is needed, up to any reasonable extent. Offers have been made by the various constituent parties to the Joint Trunk Sewer to South Orange Township for additional capacity.

" 'The Joint Trunk Sewer naturally takes care of such a large proportion of the area of Union Township, that the best interests of Union Township will be conserved by joining in with the Joint Trunk Sewer in any scheme for future increase of capacity.

" 'Trusting that this information will be of service to you, I remain,

" 'Yours very truly,

" 'ALEXANDER POTTER' "

"REPORT OF ALEXANDER POTTER TO THE TOWN OF IRVINGTON, N. J., IN THE MATTER OF ODORS IN THE JOINT TRUNK SEWER AND LATERALS.

"December 4, 1916.

"TO THE MAYOR AND TOWN COUNCIL,
"Irvington, New Jersey.

"Gentlemen:

"Acting under instructions received from your Town Council, authorizing me to examine the cause of the odors emanating from the joint sewers in Irvington and in certain of the laterals, and

to suggest a remedy, I have made a thorough investigation thereof and submit herewith this report with certain recommendations.

"Basis of Design of Irvington's Sewers.

"The sewerage system of Irvington was designed upon the following assumptions:

"(1) That it would be ventilated through the vertical shafts extending from the basement to the top of the house;
"(2) That all individual fixtures should be separately trapped;
"(3) That all dead ends should be flushed automatically once a day.

"Conditions in Irvington at the Time of Making the Investigation.

"With few exceptions house traps exist on all connections made prior to September 11, 1914, which represent probably over ninety-five per cent of all the houses now connected with the sewer. At that time the Ordinance was amended with the object of eliminating house traps on new connections except where thought inadvisable by the local Board of Health.

"A sanitary system of sewers built upon relatively flat grades requires daily flushing, was so designed, and your Engineer recommended such treatment. The gang employed under the direction of the Superintendent of Sewers is presumed to make the rounds of the flush tanks once every three weeks. We have made no effort to check up the accuracy of this statement of the Superintendent of Sewers, but we do know that there are certain sections of the sewer the condition of which unquestionably proves that this three weeks' interval is not uniform on all sewers and that at times the interval between flushings on certain sewers must be greater than three weeks. Either this, or the flushing is not sustained a sufficient length of time to wash the fecal matter out of the sewers. A sewer system designed for a flush every day cannot normally be expected to funtion properly when flushed only once every three weeks.

"The present investigation is an important one, not only for Irvington and the Joint Trunk Sewer, but also from the broad engineering point of view. Various reports have been made to Irvington to the effect that the odors in the sewers were due to lack of ventilation and the lack of flushing, but in spite of these reports no serious effort was made to remedy the trouble and the only conclusion that can be drawn from this failure to correct the evil pointed out in these various reports is that the people of Irvington and the authorities were not convinced in their own minds that the recommendations made by the Engineers from time to time were sound or disclosed the true cause of the trouble.

Therefore the Town Council is to be congratulated in ordering a thorough investigation which is at once of benefit to the Town of Irvington and to all other cities in and out of the State where this same problem has been faced.

PRACTICE OF SEWER VENTILATION IN NEW JERSEY.

"As an essential part of this report it became my duty to determine the practice of other cities in New Jersey in connection with the ventilation of their sewers, and I find that the Town of Irvington is not alone in making the house trap compulsory. From a perusal of the data given in the Appendix to this report bearing upon this subject, the conclusion can readily be gathered that the use of the intercepting trap is a relic of by-gone days.

"Among the municipalities in New Jersey which ventilate their sewers through the soil pipes by the omission of the house traps might be mentioned Burlington, Caldwell, Carteret, Chatham, Carlstadt, Haddonfield, Hightstown, Madison, Maplewood, Montclair, Maywood, Newton, Ocean City, Passaic, Paterson, Plainfield, Red Bank, South Orange, Summit, Vineland, Westfield, West Orange and Wildwood; while among the cities in which intercepting traps are still used might be mentioned Asbury Park, Bayonne, Bloomfield, Elizabeth, Englewood, Glen Ridge, Hackensack, Jersey City, Newark, Orange, Rutherford and Trenton.

"A careful scrutiny of these two lists will show that practically all systems built in recent years ventilate the sewers through the house vent pipe. Of the cities still using the intercepting trap Elizabeth, Newark, Jersey City and Trenton have combined sewers, where the needs of the omission of the intercepting trap are not so obvious as in the separate system in use by the municipalities tributary to the Joint Trunk Sewer, but in both Newark and Jersey City there is at present a strong agitation in favor of the abandonment of the intercepting trap.

"If the intercepting trap was necessary in any city, it certainly should be necessary in the City of Havana, where, because of the high temperature of the sewage, gases should be given off more readily than in the more northern latitudes, but the following letter, just received from the Secretary of Public Works of the Republic of Cuba, tells as succinctly as possible the story of sewer ventilation in Havana.

"'Habana, November 16, 1916.

"'MR. ALEXANDER POTTER,
"'Consulting Engineer,
"'50 Church Street,
"'New York City.

"'Dear Sir:

"'Answering your letter of recent date inquiring about

Havana's practice in reference to the intercepting traps on house plumbing, I beg to advise you that the Ordinances in this regard prohibit the use of intercepting traps, the house connections from the sewer serving as ventilating shafts for the street sewers.

" 'It was found that the house traps were not even efficacious in preventing the entry of rats from the old sewers into the houses.

" 'A comparision of the old sewers with their lack of ventilation with the new sewers ventilated only by the house connection, is a tribute to the efficacy of this method of sewer ventilation, As you yourself, in conjunction with the Engineers of the Department, personally entered all of the larger sewers in Havana, you are in a position to testify to the freshness of the sewer air throughout the system.

" 'Yours very truly,

" '(Signed) JOSE R. VILLALON,

" 'Secretary.' "

"The writer is in a position to endorse all that is said in the above letter, for he has personally walked through practically all of the main sewers of the City of Havana while they were carrying their normal flow of sewage. Not only was there no perceptible odor in any of the sewers that had been placed in permanent operation, but a strong current of air was passing through all of the sewers. As the ventilation of these sewers was obtained wholly through the house vents, this speaks volumes for the efficacy of this method of sewer ventilation.

"Of the municipalities still requiring the insertion of the house trap, the authorities of Newark, Glen Ridge, Hackensack, Jersey City, Ocean City, Rutherford and Hawthorne are seriously discussing the question of their elimination at the present time. The comments of some of these officials are as follows:

" 'Ventilating sewers through manhole covers is not altogether satisfactory. The house trap should be eliminated.'—Jas. E. Brooks, Health Officer, Glen Ridge.

" 'I am in favor of omitting house traps to ventilate sewers.' —R. H. L. Osthoff, Inspector, Hackensack.

" 'We find the main drain traps give us a great deal of trouble.'—J. H. Johnson, Plumbing Inspector, Ocean City.

" 'Personally, I wish to see all house traps removed.' —Chas. R. Ellis, Plumbing Inspector, Rutherford.

" 'House traps in Hawthorne have been declared a nuisance. Too much odor from the house trap.'

"CONDITIONS UNDER WHICH HOUSE TRAPS WERE JUSTIFIABLE.

"There can be no question but that in the old method of combined sewers with their open catch basins, the use of the house trap was justifiable, and perhaps might be considered proper, but

under the method now in vogue, of separate sanitary sewers, there is practically a unanimity of opinion among those engaged in the work, that its elimination is essential as it cuts off the only reasonable, logical and economical method of ventilating sanitary sewers.

"Influence of Newark.

"As the City of Newark has not yet abandoned the use of the house trap, although its engineers, men of high standing, have long and persistently recommended its abandonment, there can be no question but that the sentiment prevailing in Irvington on this important matter is affected in no small measure by the close proximity of the two cities and the influence of the practices in the larger city over the practice in the smaller one. The residents of the smaller city feel that what is good enough for the larger city is unquestionably the proper thing for the smaller city to adopt, and I admit that it is difficult to believe that there is a department in Newark's municipal government which has not kept pace with proved modern practice.

"The examination which has been undertaken by me and is referred to in this report has not been confined to the City of Irvington, but we have also examined sewers within the City limits of Newark, and find conditions existing in Newark similar to those found in the sewers of Irvington, namely, that where the sewers are flushed no odors are perceptible, but where the sewers are not flushed the conditions are identical to those in the unflushed sewers in Irvington.

"Scope of Investigation.

"The investigation made by me has been thorough and has been conducted for the purpose of determining beyond any peradventure of a doubt all of the facts and conditions directly and solely responsible for the emanation of sewer gas and foul odors from certain sewers in Irvington. This investigation and report covers five distinct phases, as follows:

"First":	The examination of as many sewers in Irvington and Newark as we considered might possibly be not functioning properly;
"Second":	The location and examination of all manholes on the joint trunk sewer system in Irvington from which sewer gas and foul odors emanate;
"Third":	The tracing of this sewer gas and these foul odors to their source;
"Fourth":	Determining the causes directly and solely responsible for these foul odors.
"Fifth":	Devising remedies to alleviate these conditions.

"Conditions of Main Trunk.

"The main stem of the Joint Trunk Sewer, extending from the Irvington boundary line to the junction of the Newark branches at Lyons Avenue, was found to be in fair condition. The air in this portion of the trunk sewer (which under average conditions flows about half-full) had a decided odor of sewer gas. Sewer gas, however, was not given off from any of the manholes in noticeable quantities except at the lower manhole near Union Avenue, at the Irvington boundary line, and at several manholes just below Lyons Avenue. The current in this section of the Joint Trunk Sewer is swift enough to carry along pebbles from an inch to an inch and a half in diameter. Sewage matter entering the trunk at Lyons Avenue reaches the Irvington boundary line in twenty-four minutes.

"Conditions at Lyons Avenue.

"At Lyons Avenue an 18-inch sewer enters the main branch from the southeast and extends up Lyons Avenue to the Newark boundary line. Sewer gas from this branch is given off in considerable quantities at a manhole where the Augusta Street Joint Trunk Sewer enters the Lyons Avenue branch.

"Conditions on Augusta Street.

"At Augusta Street a branch of the Joint Trunk Sewer extends northerly along Augusta Street and Washington Avenue to Springfield Avenue, thence easterly along Springfield to North Grove Street, thence northerly along North Grove Street to Nineteenth Avenue, and along Nineteenth Avenue to Newark. Along Augusta Street, especially in the vicinity of Clinton Avenue, the conditions are very bad. In this vicinity sewer gas in objectionable quantities is more or less continually discharged through manhole perforations. The conditions on Springfield Avenue, North Grove Street and Nineteenth Avenue are fair.

"Lincoln Place Line.

"At the intersection of Lyons Avenue and Lincoln Place a branch of the Joint Trunk Sewer extends north to the Newark (Vailsburg) boundary line. The conditions along this sewer are fair with the exception of a short section along Lincoln Place, where sewer gas in considerable quantities is discharged more or less intermittently through manholes, especially those located at the intersection of Springfield Avenue, Park Avenue and the one just south of Weber Place.

"Velocity of Flow in Sewer.

"In none of the sections of the Joint Trunk Sewer in Irvington is the flow less than two feet per second. Such a velocity of flow is sufficient to carry along rounded stones as large as one

inch in diameter. Due to the heavy flow and the grade to which the trunk sewers have been laid, a self-cleansing velocity is maintained in all of the branches of the Joint Trunk Sewer. Sewage matter entering the Joint Trunk Sewer at the Vailsburg section of Newark reaches the southerly boundary line of Irvington in fifty-two minutes. Sewage matter entering the Lyons Avenue branch at the Newark boundary line reaches the same point in forty minutes, and that from Nineteenth Street, Newark, in sixty-one minutes.

"Volume of Sewer Gas in Sewer.

"The total quantity of sewage at any one time in the Joint Trunk Sewer within the corporate limits of Irvington is about 200,000 gallons. As by far the larger percentage of the sewage reaches the Joint Trunk Sewer in a comparatively fresh condition, the actual quantity of sewer gas given off within the confines of the Joint Trunk Sewer is very small, and probably does not exceed 50 cubic feet of sewer gas per day. This estimate is borne out by the fact that experiments made upon the quantity of sewer gas given off from sewage when in a highly putrescible state, such as the sewage in a septic tank, indicates that only 1224 cubic feet of sewer gas would be given off in twenty-four hours from the 200,000 gallons of sewage in the Joint Trunk Sewer through Irvington. From the odors perceptible on the Augusta Street line a very much greater volume than 1224 cubic feet of sewer gas is discharged per day through the Augusta Street line, and consequently this volume must be generated in other than the Joint Trunk Sewers.

"Tracing the Origin of the Foul Air.

"A number of experiments have been made to trace the foul odors emanating from the sewers in Irvington to their source. After some preliminary experiments we concluded that this could best be done by accurately determining the direction and rate of movement of the air within the Joint Trunk Sewer system and the laterals entering it. As the air currents in some of the laterals were found to be too small to be recorded by the most sensitive anemometer, a method was used whereby even the slightest movement of the air could be accurately followed, namely, by creating within a manhole of the section to be tested a very dense smoke. This smoke was produced in a smoke basket made out of fine wire netting. The basket was about 15 inches in diameter and 20 inches long—just large enough to be conveniently lowered into the manhole after it was lighted on the surface. Tar paper, waste, etc., was used to create dense volumes of smoke. All of the experiments made prove conclusively that sewer air, instead of passing up the sewer and out of the manholes at the high points due to its specific gravity being lighter than air, passes invariably and without exception down the sewer with the current of the sewer and is forced out at the lowest points of the sewer.

"Sewer Gas Flows Down Hill.

"The conclusion that sewer gas flows uphill instead of downhill with the flow of the sewage is a theoretical and erroneous one, based upon the physical principle that sewer gas, being somewhat lighter than the atmosphere, has a tendency to rise to the highest points and that this tendency to flow to the high points is increased by the difference in temperature between the air within and without the sewers, ignoring other and more potent causes. All of the experiments without exception prove that this theory is erroneous in the case of sanitary sewers, where in all of the sewers in which exists an appreciable flow of sewage the air movement follows the current of the sewage and at a velocity ranging from one-half to seven-eighths of the velocity of the sewage. The facts are that the friction between the flowing sewage and the air in the sewer is sufficient to not only overcome the tendency of the sewer gas to rise, due to its lighter specific gravity, but to force the air in the sewers downhill at a velocity reaching in one instance as high as 2.4 feet per second. Even the smallest flows create sufficient friction to cause this downward velocity of air.

"Origin of Sewer Gas.

"All of the experiments made at Irvington indicate that sewer gas and foul odors, wherever they do exist in the Joint Trunk Sewer system, do not back up into any of the Irvington sewers in which there is an appreciable flow, but that the reverse is the case. The only exception to this rule is at points where either in the Joint Sewer or the local sewers two sewers come together from opposite directions and at sustantially the same grade. If the flow from one sewer exceeds greatly the flow from the other sewer the channel in the bottom is constructed to carry both flows around a right-angled bend, but as the velocity of the air over the sewer is greater in one case than the other, there is a tendency for the air in the sewer of greater flow, following the well-known laws of physics, to continue in a straight line up the other sewer a short distance until it is checked by the air coming down the sewer of low flow.

"Experiment on Union Avenue and Mill Road.

"The most convincing experiment made by us to determine the movement of air in sanitary sewers is the one made on the lower end of Union Avenue, Irvington, sewer which drains the southeastern area of Irvington, including the Scuffletown section. The sewers in the Scuffletown district were found to be very unclean, due primarily to lack of flushing; but with the exception of the manhole at the intersection of Norwood Avenue and Melville Place no odor emanated from any of the manholes in this section. A decided odor, however, was noticeable in these sewers on entering the manholes. Sewage odors in considerable quanti-

ties were given off through the perforations in the manhole covers at the lower end of Union Avenue.

"An experiment was made by us to determine beyond any question of doubt whether or not any of the foul odors emanating from the Irvington sewers in this section could be attributed to the backing up from the Joint Trunk Sewer located immediately to the west of the Elizabeth River. The experiment consisted in inserting the smoke-basket already described in the third manhole of the Irvington sewer on Union Avenue measured from the Joint Trunk Sewer manhole on Mill Road toward Union Street. It was found that the smoke was forced downhill at the rate of 2.38 feet per second despite the steep grade to which this sewer was laid, namely, 6.5 feet per thousand, and in spite of the fact that at the point where Mill Road crosses the Elizabeth River the Irvington 10-inch sewer was throttled by an effective temporary seal. The downward movement of the sewer air on Union Avenue was at the rate of 89,680 cubic feet per day. All of this air entered the lateral sewers at their upper ends and was forced out at the lower end of Union Avenue, and none of it reached the Joint Trunk Sewer.

"Of the large number of other experiments made, both on the Joint Trunk Sewer and the Irvington lateral sewers, the results were identical with those obtained at the lower end of Union Avenue. The movement of the air in the sewers was invariably the same as that of the sewage and never against the flow where this is appreciable.

"Odor in Vicinity of Clinton Avenue and Augusta Avenue.

"One of the experiments made was to ascertain the facts as to the source of the odors emanating from the manholes on Clinton Avenue near Sharon Avenue, Howard Street and Bruen Avenue. Experiments made on two separate days showed that the air travels down Clinton Avenue to the Joint Trunk Sewer with an average velocity of 41.3 feet per minute, thence down Augusta Street, and that the decided odors noticeable at these manholes were the odors which were brought to the Clinton Avenue sewer from the Irvington laterals and not from the Joint Trunk Sewer.

"Condition of Irvington's Lateral Sewers.

"The many experiments that have been made, as set forth in detail in Table II, absolutely establishes the fact that sewer gas in the Joint Trunk Sewer does not ascend any Irvington lateral in which there is any appreciable flow.

"Calculations based upon the results of the experiments made indicate that fully 500,000 cubic feet of air reach the Joint Trunk Sewer from the Irvington and Newark lateral sewers, a considerable portion of which air is forced out of the Joint Trunk Sewer at the low places. As this sewer air is highly impregnated with sewer gas we made a thorough investigation of the Irvington

lateral sewers to locate the source of the gas. In this investigation we have given special attention to those lateral sewers which are laid on a minimum grade and where the tendency to form deposits is a maximum.

"In the upper ends of the lateral sewers we find it to be almost invariably the case that the flow is not sufficient in itself to prevent the deposition of fecal matter, which is plainly visible in these sewers. None of the flush tanks were found in operation as designed. In other places there is no flow at all in the lateral sewers due to obstructions formed by materials such as waste, sticks, rags, etc., forming a stoppage, and which are dislodged only at infrequent intervals because of the small flow in the laterals. The sewage matter collecting in these pools putrefies and renders such sewers filthy and foul-smelling.

"Sewers Flushed Daily Do Not Give Off Odors.

"As a rule putrefaction of fecal matter in sewage does not set in until after a period of about twenty-four hours. If sewage matter becomes stranded in the sewers and does not reach the main trunk within that time, it will putrefy and produce the noxious and offensive gases noted in so many of Irvington's sewers. These noxious and offensive gases do not ordinarily come to the surface at the point where they are created but are carried gradually along with the current to the main trunks, where they collect in such quantities as to be forced out through the perforations in manhole covers and thereby produce the unsanitary conditions of which complaints have been and will be continually made by the people living in the neighborhood of such places.

"Production of Sewer Gas Must Be Reduced to a Minimum.

"The conditions in Irvington can only be improved by cutting down the production of sewer gas to a minimum. Fresh sewage gives off sewer gas in negligible quantities only. It is only after putrefaction has set in after a period of about twenty-four hours that noxious and offensive odors are created in large quantities. Lack of flushing is primarily responsible for the production of the large quantities of sewer gas noted in Irvington. The flow in the upper ends of the laterals for weeks at a time is insufficient to transport the fecal matter discharged into it, to the main trunks. This stranded fecal matter mats down and creates the stagnant pools of sewage which are largely or solely responsible for the creation of the large quantity of sewer gas present in the Irvington sewers. Periodic flushing of the upper ends of lateral sewers is just as essential as is the flushing of toilets and urinals. In one or two intances, also, such as on Washington Avenue and on Brookside Avenue, the flow in the sewer is sluggish and some of the solid matter settles out and forms deposits. The putrefaction of these deposits gives off large quantities of gas. These deposits must be removed periodically either by flushing or hand cleaning

of the sewers, such as was resorted to for a number of years when the Irvington sewer system was first placed in operation.

"Ventilation of Sewers Essential.

"Reducing the production of sewer gas to a minimum will not entirely do away with the evil of bad smelling sewers. This can only be accomplished by an adequate system of ventilation, not only of the main trunks, where to the casual observer the existence of sewer gas is most pronounced on the surface, but also the upper end of the lateral sewers, where nearly all of the sewer gas noticeable in the trunks is created. Ventilation through the perforations of the manhole covers in itself is not and can never be made effective enough to secure the desired results. Effective ventilation can only be secured either through shafts erected at intervals of one hundred feet or else through untrapped house connections.

"No valid reason can be advanced against the omission of the intercepting trap. The length of the house connection compared to the length of the lateral sewer is approximately sixty per cent., and unless these connections are properly laid, of proper size, gas is created in the house connections as well as the sewers, and ventilation is required as much for the individual property owner's benefit as for the general benefit of the community as a whole.

"The formation of sewer gas in these house laterals can be very largely avoided by restricting the size of these pipes to a minimum so that the flush from the toilets can practically fill the barrel of the sewer and sweep down any accumulation or deposit that might exist in these house connections. The practice of many cities in adopting for house connections a pipe as large as six inches is not to be commended, as it creates the added menace of a pipe too large to be effectively flushed by the discharge from the fixtures in the houses.

"In the past it has been considered good practice to ventilate sewers by means of a fresh air inlet placed near the house; but where the currents of air are so frequently affected by changes in temperature, the fresh air inlet very frequently becomes a foul air outlet, and located as it is in front of the house, it becomes more of a menace than a benefit.

"Summary.

"This report sets forth that the Town of Irvington is sewered on the sanitary plan, in accordance with the present requirements of the Department of Health of the State of New Jersey. If in such a system of sewerage the dead ends of all laterals are flushed automatically once a day and the sewers are properly ventilated, no nuisance will result, as is proven by the experience of many municipalities where this is the practice. Although provided with automatic flush tanks, the sewers in Irvington are not automatically flushed. At the present time the sewers in Irvington are

supposed to be flushed by hand once every three weeks. The thorough inspection that has been made by us this fall indicates that the system of flushing now in vogue is not effective in keeping all sewers clean and free from deposits of sewage matter. Stranded sewage matter in varying stages of putrefaction exists in many of the Irvington lateral sewers and is responsible for the bad odors noted in the Irvington sewer system. Furthermore, during the hot and dry weather putrefaction becomes more active and the production of odors is further augmented by the reduced flow in the sewers at such times, causing a greater quantity of sewage matter to become stranded in the sewers.

"The odors and gases resulting from putrefaction of fecal matter in the sewers do not rise to the surface at the point where they are created, but are gradually carried to the trunk sewers with the current of the sewage, and there, because of the restricted air space above the liquid, most of the sewer gases are forced out through the manhole perforations. This phenomenon occurs largely in the vicinity of junctions of trunks and in sections of trunks where the grade of the sewer flattens out, the depth of the flow increases, and the air space above is materially reduced. Only a very small fraction of the sewer gases thus given off is generated in the trunk sewers, nearly all of it coming from the lateral sewers.

"As determined by a large number of conclusive tests, sewer gas passes invariably and without exception down the sewers with the current of the sewage and is forced out at the lowest point of the system. The controlling factor in the movement of air in sanitary sewers is the friction between the flowing sewage and the air immediately above it. Even where the flow of sewage is less than one foot per second, it appears to be sufficient to overcome the tendency of the sewer gas to rise against the current due to its specific gravity being lighter than that of air.

"The report further sets forth that odors arising from the Irvington sewers adjacent to the Joint Trunk Sewer cannot be attributed to the backing up from the Joint Trunk Sewer. The odors have their source in the Irvington lateral sewers, for a pronounced air movement has been found to exist in every instance from the Irvington lateral sewers to the Joint Trunk Sewer.

"Conclusions and Recommendations.

"1—Relief from odors cannot be made effective unless the Irvington and Newark sewers tributary to the Irvington trunk sewer system are kept clean and free from putrefying fecal deposits.

"2—Sanitary sewers cannot be kept clean and free from deposits simply by occasional flushing; they should be flushed daily. Automatic flush tanks designed to work once a day are installed at the dead ends of all Irvington lateral sewers, but are not now so used. The sewer system of Irvington cannot function properly

when flushed only once every three weeks, as it appears is now the practice.

"3—Along Washington Avenue and Brookside Avenue from Springfield Avenue to Avon Avenue the normal flow is not sufficient to prevent the accumulation of deposits of silt and fine sand which find their way into the sewer, and periodic hand flushing from manhole to manhole must be resorted to to prevent the sewer from becoming foul smelling.

"4—House connections for single dwellings should not be larger than 4 inches in diameter. A pipe larger than 4 inches is not effectively flushed by the discharge from fixtures in the house. Solid matter becomes stranded therein, putrefies, and adds to the nuisance of odors.

"5—All sewers, both mains and laterals, and house connections must be ventilated by some positive method.

"6—The ventilation of sewers through untrapped house connections and soil pipes carried up to and through the roof of the house is the most efficient and economical method of ventilating sanitary sewers and house connections, and is strongly recommended as the proper and most economical solution for the Town of Irvington.

"7—Standpipes erected every hundred feet along the line of the sewer and carried up above the eaves of adjoining houses provide proper ventilation. Standpipes have been used in the past in several of the European cities in connection with combined sanitary and storm sewers. Apparently they have not been a success. They are not now used by any municipality in the United States.

"Respectfully submitted,

"ALEXANDER POTTER."

"APPENDIX.

"THE PRACTICE OF SEWER VENTILATION IN THE STATE OF NEW JERSEY.

"To determine the practice of sewer ventilation in the State of New Jersey, the following questionaire was sent out to all of the larger municipalities in the State of New Jersey—one hundred and sixty altogether:

"'New York City, Nov. 4, 1916.

"'Dear Sir:

"'I am investigating the cause of odors in sewers in a New Jersey municipality and the question of sewer ventilation naturally arises. I should like to know—

"'(a) What provision is made in your municipality as to sewer ventilation?

"'(b) What is your rule in reference to the elimination of the main house trap?

"'A prompt response will greatly oblige.

"'Yours very truly,

"'ALEXANDER POTTER,

"'Consulting Engineer.'

"Fifty-six replies were received. Of these, eighteen were from municipalities not publicly sewered. Of those municipalities publicly sewered, sixteen prohibit by ordinance the use of the house trap, and twenty-two either have made its use compulsory or else are silent on the question. All of the information collected is given in tabular form in the table below.

"This table shows that the majority of the municipalities sewered many years ago, and largely on the combined plan, demand the insertion of the house trap by ordinance, whereas those municipalities which have been sewered recently, on the separate plan, in the majority of cases prohibit the use of the house trap and ventilate the sewers through the house connections and soil pipe.

"TABLE I.

"METHOD OF VENTILATION OF SEWERS IN USE IN VARIOUS MUNICIPALITIES IN THE STATE OF NEW JERSEY.

Municipality.	*System of Ventilation Used.*	*House Trap Prohibited by Ordinance.*	*Percentage of House Traps Omitted.*
Asbury Park	Manholes	No	.....
Bayonne	"	No	.....
Bloomfield	"	No	.....
Burlington	Manholes and soil pipes	Yes	Not given
Caldwell	" " " "	Yes	95%
Carlstadt	Manholes and house trap fresh air inlet	No	.....
Carteret	Manholes and soil pipes	Yes	50%
Chatham	" " " "	Yes	99%
Elizabeth	Manholes	No	.....
Englewood	"	No	.....
Glen Ridge	"	No	.....
Hackensack	"	No	.....
Hammonton	"	No	.....
Hightstown	Manholes and soil pipes	Yes	99½%
Jersey City	Manholes	No	.....
Kearney	"	No	.....
Madison	Manholes and soil pipes	Yes	100%
Maplewood	" " " "	Yes	100%
Montclair	" " " "	Yes	80%

Morristown	Not ventilated	No	.....
Newark	Manholes	No	.....
Newton	Manholes and soil pipes	Yes	25%
Ocean City	" " " "	Yes	100%
Orange	Manholes	No	.....
Passaic	Manholes and soil pipes	Yes	100%
Paterson	" " " "	Yes	95%
Plainfield	" " " "	Yes	100%
Princeton	Manholes	...	.....
Red Bank	Manholes & ventilated main trap	No	.....
Rutherford	Manholes	No	.....
South Orange	Manholes and soil pipes	Yes	100%
Summit	" " " "	No	20%
Trenton	Manholes	No	.....
Westfield	Manholes and soil pipes	Yes	100%
West Hoboken	Manholes	No	.....
Wildwood	Manholes and soil pipes	Yes	100%
Woodbury	Manholes	No	.....
Woodbridge	"	No	.....

"MOVEMENT OF AIR IN THE IRVINGTON SEWERS.

"A number of experiments have been made to trace the movement of air both in the Joint Trunk Sewer and in the Irvington lateral sewers. The movement of air was determined by creating within the manhole of the section to be tested a very dense smoke generated from tar paper, waste, etc., contained within a wire basket 15 inches in diameter and 20 inches long. The following table gives the results of all the experiments made. The average velocity of air movements given in the table is the rate of movement of the air in the entire section at the time of the experiment.

"TABLE II.

"SUMMARY OF EXPERIMENTS TO DETERMINE MOVEMENT OF AIR IN IRVINGTON SEWERS.

No. of Experiment.	*Date.*	*Average Velocity of Sewage (ft./sec.)*	*Average Velocity of Air Movement (ft./sec.)*	*Ratio in %*	*Movement of air (cu. ft./day)*
1	10/18/16	1.6	0.32	20	20,300
2	10/18/16	3.2	0.24	8	12,100
3	10/19/16	4.0	1.50	35	60,100
4	10/19/16	3.4	1.20	35	125,000
5	10/20/16	3.4	1.12	33	121,000
6	10/20/16	2.7	2.38	88	89,700

7	10/23/16	(3.1 main line	(1.94	(63	(175,000
		(3.0 relief	(0.29	(10	(41,600
8	10/23/16	4.3	1.06	25	112,000
9	10/31/16	3.1	1.30	42	58,300
10	10/31/16	1.82	0.29	16	26,800

GUIDE—

Experiment No. 1—Oct. 18, Corner Myrtle and Avon Avenues.
" No. 2— " " Brookside Avenue between Avon and Madison Avenues.
" No. 3— " 19, Corner Lyons and Chester Avenues.
" No. 4— " " Clinton Avenue between Howard and Bruen Avenues.
" No. 5— " 20, ditto.
" No. 6— " " Union Avenue.
" No. 7— " 23, Lyons Avenue between Union Avenue and Lincoln Place
" No. 8— " " Smith Street between Clinton and Springfield Avenues.
" No. 9— " 31, Augusta Street 380 ft. north of Lyons Avenue.
" No. 10— " " Augusta Street 310 ft. north of Lyons Avenue.

It was moved that the Inspector be authorized in the future to pay the current rate of wages for labor. Carried.

Moved that the Inspector be directed to have the sewers cleaned at once and employ such laborers as may be necessary. Carried, 4 ayes, no noes.

Moved that the Engineer's report to Irvington be printed in the minutes in connection with his regular report. Carried.

Moved that the Secretary be directed to arrange with the City of Newark to place four new manhole heads on Sandford Avenue and charge the same to the Joint Meeting. Carried, 4 ayes, no noes.

Dr. Campbell moved that Mr. Schmidt be requested to proceed with the work of repairing Morris Avenue at his bid of $288 plus the increased cost for materials over that prevailing in November, 1917. Carried.

Dr Campbell also moved that the Secretary be authorized to draw on the Treasurer to an amount not exceeding $300.00 to pay laborers who will be employed in cleaning the sewers. Carried, 4 ayes, no noes.

The report of the Treasurer was read and on motion received and ordered printed:

"To the Various Municipalities Comprising the Joint Sewer Meeting.

"Gentlemen:

"The Treasurer respectfully reports, that on the 7th day of February, 1918, the date of his last report, he had on deposit in the Orange National Bank, the sum of $1300.73, with certain warrants outstanding referred to in said report, that the total amount of cash on hand at that time amounted to $1283.23

"The Treasurer further reports, that since the date of his last report he has deposited in the Orange National Bank the sum of $1823, and has been credited with $4.02 interest, so that the total amount of cash on hand amounted to $3110.25

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2, hereunto annexed, amounting to $1269.01, and that the total amount of cash on hand at the date of this report amounts to $1841.24. Warrants 2017 for $2.50, 2207 for $5, 2471 for $10, 2501 for $83.33, 2502 for $170, 2503 for $100 and 2504 for $35.16, aggregating $405.99, are still outstanding, so that he has, therefore, on deposit in the Orange National Bank at the date of this report the sum of $2247.23.

"All of which is respectfully submitted this Second day of May, Nineteen hundred and eighteen.

"S. H. Rollinson,
"Treasurer."

Schedule 1.

1918.			
Feb. 7.	Balance	$1,283.23	
" 18.	South Orange	250.00	
" 20.	Summit	250.00	
" 21.	West Orange	250.00	
" 23.	Irvington	250.00	
" 23.	Newark	500.00	
" 25.	Millburn	250.00	
Mar. 14.	T. H. Riddle	73.00	
	Interest	4.02	
			$3,110.25

Schedule 2.

1918.		
Feb. 8.	Weibezahl Print	$ 6.18
" 8.	N. Y. Telephone Co.	21.10

"	8.	C. W. Sandford	2.40
"	8.	E. S. Rankin	1.36
"	8.	E. S. Rankin, Sec'y	10.00
"	28.	Alexander Potter	83.33
"	28.	C. W. Sandford	170.00
"	28.	J. J. Keating	100.00
"	28.	E. S. Rankin	35.16
Mar.	30.	Alexander Potter	83.33
"	30.	S. H. Rollinson	62.50
"	30.	C. W. Sandford	170.00
"	30.	J. J. Keating	100.00
"	30.	E. S. Rankin	35.16
Apr.	30.	Alexander Potter	83.33
"	30.	C. W. Sandford	170.00
"	30.	J. J. Keating	100.00
"	30.	E. S. Rankin	35.16
			1,269.01
		Cash on hand	$1,841.24

The following resolution presented by the Secretary was on motion carried: 4 ayes, no noes.

"WHEREAS, on the seventh day of December, 1917, warrant No. 2471 was issued to N. S. Bartow in the amount of $10.00;

"AND WHEREAS, it appears that the said warrant No. 2471 has been lost in the mails;

"THEREFORE BE IT MOVED, That the Treasurer be and he is hereby authorized to stop payment at the Bank on warrant No. 2471, and the Secretary is hereby directed to issue duplicate warrant in its place."

The Secretary then presented the following report:

"May 2, 1918.

"JOINT MEETING,

"Gentlemen:

"In accordance with the usual custom, I present herewith trial balance and table showing distribution of receipts and expenditures for year ending April 1, 1918.

"Respectfully,

"EDWARD S. RANKIN,

"Secretary."

The expenses incurred during the year ending April 1, 1918, are as follows:

Salary of Engineer	$1,000.00
Salary of Secretary, including office	422.00

Salary of Treasurer	250.00	
Salary of Chief Inspecor, including horse	2,040.00	
Salary of Assistant Inspector	1,200.00	
Counsel	250.00	
Executive Committee	180.00	
Total salaries		$5,342.00
Repairing break on Morris Turnpike	$ 822.89	
Telephone	87.45	
Printing Minutes	41.69	
Labor	161.50	
Auditing Books	50.00	
Painting pipes	50.00	
Repairing wagon	49.00	
Expense accounts	36.84	
Miscellaneous	61.75	1,361.12
		$6,703.12

A year ago the expenses amounted to $8,071.07

DISTRIBUTION OF RECEIPTS.

1917-1918.

Balance 1917, treasurer	$ 71.17
Old balance	16.92
Assessments (5 x $1750)	8,750.00
Tap fee	10.00
Interest	7.74
Cleaning sewer	73.00
	$8,928.83
Expenses	$6,703.12
Balance	$2,225.71

SECRETARY'S TRIAL BALANCE.

April 1, 1918.

Cash	$2,225.71	Maintenance	$2 325.71
Petty Cash	100.00		
	$2,325.71		$2,325.71

On motion the report was received and ordered printed in the minutes.

For the Legislative Committee Mr. Van Duyne reported that both bills presented at the last Session of the Legislature at the request of the Joint Meeting had failed to pass.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 4 ayes, no noes.

Alex. Potter February salary	$ 83.33
C. W. Sandford, February salary and horse	170.00
J. J. Keating, February salary.....	100.00
E. S. Rankin, February salary and office	35.16
Alex. Potter, March salary	83.33
S. H. Rollinson, Jan., Feb., March salary	62.50
C. W. Sandford, March salary and horse..	170.00
J. J. Keating, March salary	100.00
E. S. Rankin, March salary and office....	35.16
Alex. Potter, April salary	83.33
C. W. Sandford, April salary and horse..	170.00
J. J. Keating, April salary	100.00
E. S. Rankin, April salary	35.16
N. Y. Telephone Co., telephone service ..	26.40
Queen Gray Co., Dibble charts	7.64
Weibezahl Print, printing minutes	5.10
Ernest H. DuVivier, charts	19.00
E. S. Rankin, Sec., petty cash	32.00
	$1,318.11

Mr. Bartow moved that the books be auditied up to the end of the last fiscal year ending April 1, 1918, and that the Secretary be directed to arrange with Messrs. Lovejoy, Mather & Hough to make the audit at a cost not to exceed $50. Carried, 4 ayes, no noes.

On motion adjourned at 9:25 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 13, 1918.

ANNUAL MEETING.

The annual meeting of the Joint Meeting was held at the South Orange Village Hall on the above date at 8 P. M.

Present: Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; Messrs. H. J. Stanley, Irvington; Charles Lehrer, West Orange, and N. S. Bartow, South Orange. The Engineer, Treasurer and Inspectors were also present, together with Engineers Casey of Irvington and Winston of West Orange.

The minutes of the last meeting were approved as printed.

The Engineer submitted the following report, which was received and ordered printed:

"June 13th, 1918.

"JOINT MEETING:

"Gentlemen—

"At the last meeting of the Joint Meeting your Engineer recommended that a systematic cleaning be authorized of the upper section of the Joint Trunk Sewer and an appropriation was made to cover the cost of this cleaning.

"Since the last meeting all of Section 4, and also 1,000 feet of West Orange sewer immediately adjacent to the Venturi Meter, has been cleaned. All of Section 5 has been cleaned.

"The method of cleaning was to rod and swab the entire length of the sewers, and on certain parts where there was need for it the sewer was thoroughly brushed out. Section 6 still remains to be cleaned. The cost of labor in connection with the cleaning so far has been $215.00. The total length of sewers cleaned is as follows:

"Section Number 4	20,287.8 ft.
"Section Number 5	41,671.1 ft.
"Total number of feet cleaned	61,958.9 ft.

"The total cost for cleaning the sewer for labor was $.0035 per foot. This is a remarkably low price for such work. The amount remaining to be done is 9,300 feet and the Inspector is of the opinion that $35.00 to $50.00 will be sufficient to complete the work.

"Your Engineer did not recommend the cleaning of the main trunk sewer from Staten Island Sound to the junctions of Sections 4 and 6, but the Inspectors have been given instructions to make a more intensive inspection of this part of the sewer dur-

ing the coming dry season than is usually considered necessary. I have not thought it advisable to detail in this report the obstructions encountered by the Inspectors in the recent cleaning operation, leaving it to them to answer any question that may be asked of them at the meeting to-night.

"I cannot speak too highly of the good work done by our Inspectors in connection with this cleaning and their faithful stewardship generally. I believe it only fair to state that considering the large increase in the cost of living which has justified an increase in the cost of labor generally, that the salaries of the Inspectors be increased about fifteen per cent. In other words, a raise of $30.00 per month to the Chief Inspector and $20.00 per month to the Assistant Inspector.

"The net increase of salary to the Chief Inspector recommended is not greater than that of the Assistant Inspector, for the salary of the Chief Inspector includes the providing and keeping of a horse and wagon and the cost of keeping a horse has advanced also.

"Now that the sewers are cleaned your Engineer will make corrections and adjustments of the sewer flows and will submit the table thereof at the next meeting.

"Respectfully submitted,

"ALEXANDER POTTER."

Mr. Bartow moved that the recommendation as to increasing the Inspectors' salaries be concurred in. The roll being called, the motion was carried, 4 ayes, 0 noes.

Inspector Sandford gave some account of the obstructions which were found while cleaning the sewers.

The report of the Treasurer was then read and on motion received and ordered printed:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen—

"The Treasurer respectfully reports, that on the 2nd day of May, 1918, the date of his last report, he had on deposit in the Orange National Bank the sum of $2247.23, with sundry warrants aggregating $405.99 outstanding, so that the total amount of cash on hand at that date was $1841.24.

"The Treasurer further reports, that since the date of his last report, he had deposited in the Orange National Bank the sum of $4.80, and been credited on his books by cancellation of warrant 2471 for $10, so that the total amount of cash on hand amounted to $1856.04.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2,

hereunto annexed, amounting to $688.63, so that the total amount of cash on hand at the date of this report is the sum of $1157.41. Warrants 2017 for $2.50, 2207 for $5, aggregating $7.50, are still outstanding, so that he now has on deposit in the Orange National Bank the sum of $1174.91.

"All of which is respectfully submitted this Thirteenth day of June, Nineteen Hundred and Eighteen.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1918.			
May 2.	Balance	$1,841.24	
" 8.	Check received from E. S. Rankin for manhole cover broken by Interstate Crushed Stone Co. ..	4.80	
	By cancellation warrant 2471	10.00	
			$1,856.04

SCHEDULE 2.

1918.			
May 31.	N. Y. Telephone Co.	$ 26.40	
" 31.	Queen Gray Co.	7.64	
" 31.	Weibezahl Print	5.10	
" 31.	Ernest H. DuVivier	19.00	
" 31.	E. S. Rankin, Sec'y	32.00	
" 31.	N. S. Bartow (Dup. 2471)	10.00	
" 15.	E. S. Rankin, Sec'y	200.00	
" 31.	Alexander Potter	83.33	
" 31.	C. W. Sandford	170.00	
" 31.	J. J. Keating	100.00	
" 31.	E. S. Rankin	35.16	
			688.63
			$1,167.41

The Secretary presented the report of the accountants engaged to audit the books, together with correspondence relative thereto, all of which were received and ordered printed:

"May 22, 1918.

"George F. Seymour, Jr., Esq.,
"Chairman—Auditing Committee, Joint Sewer Meeting,
"South Orange, New Jersey:
"Dear Sir—

"As instructed, we have made an audit of the books and accounts of the Secretary and Treasurer of the Joint Sewer Meet-

ing from February 1, 1917, to March 31, 1918, inclusive, and find the same to be correct.

"The transactions which took place over this period may be summarized as follows:

Cash on hand and in bank February 1, 1917 (Treasurer's account)		$1,023.01
Assessments made and collected over the period	$8,750.00	
Interest	11.76	
Miscellaneous	83.00	
Transfer of Cash standing in the name of William Rollinson to S. H. Rollinson	16.92	8,861.68
		$9,884.69
Disbursements: (Warrants 2,380 to 2,500 inclusive)		7,654.96
Balance at close of business March 31, 1918, on deposit in the Orange National Bank		$2,229.73

"We have verified the assessments and miscellaneous income with the Minutes of the Committee and traced these receipts to the bank account.

"Warrants bearing numbers 2,380 to 2,500 inclusive were inspected for all disbursements made and were found to be in order, with the exception of number 2,405, which was used by William Rollinson to transfer the cash balance standing in his name, and reported by us in our report of April 18, 1917, to the present Treasurer, Simeon H. Rollinson.

"The trial balance of the books at the close of business March 31, 1918, is as follows:

	Debit.	*Credit.*
Petty Cash	$ 100.00	
Maintenance		$2,325.71
Cash	2,225.71	
	$2,325.71	$2,325.71

"You will note that the cash amount on the Secretary's books is $4.02 less than the cash shown on the Treasurer's books. This discrepancy is accounted for by interest allowed by the bank in March but not taken up in the Secretary's books until April.

"We verified the petty cash on hand as at the close of business March 31, 1918, and reconciled the cash in bank standing to the credit of S. H. Rollinson, Treasurer, with a certificate

from the depositary after making allowance for warrants drawn in March and not passed through the bank until April.

"Yours very truly,

"LOVEJOY, MATHER, HOUGH & STAGG."

"May 31, 1918.

"Messrs. Lovejoy, Mather, Hough & Stagg,
"55 Liberty Street,
"New York City:

"Gentlemen—

"In your report covering audit of books of the Joint Meeting you say, 'Warrants bearing numbers 2,380 to 2,500 inclusive were inspected for all disbursements made and were found to be in order, with the exception of number 2,405, which was used by William Rollinson to transfer the cash balance standing in his name, and reported by us in our report of April 18, 1917, to the present Treasurer, Simeon H. Rollinson'. This would seem to indicate that this transfer of money from the former treasurer was not done properly. Upon the advice of your Mr. Patterson, who made the audit last year, warrant No. 2405 was drawn by William Rollinson, the former treasurer, to *Simeon H. Rollinson,* the present treasurer. I am enclosing copy of minutes of the Joint Meeting of April 19, 1917, where I have marked the authorization of the Joint Meeting to have this old balance transferred from the former treasurer to the present treasurer.

"Kindly advise on this subject in order that the report may be clear of any exceptions.

"Very truly yours,

"EDWARD S. RANKIN,
"Secretary."

"June 3d, 1918.

"E. S. Rankin, Esq.,
"Secretary—Joint Sewer Meeting,
"City Hall, Newark, New Jersey:

"Dear Sir—

"AUDIT OF ACCOUNTS,

"FEBRUARY 1, 1917, TO MARCH 31, 1918.

"Replying to your letter of the 31st ultimo, the exception taken in our report dated May 22d, 1918, was due to the fact that Warrant No. 2405 was not produced to us. The transaction is, of course, in order, but to complete your records the Warrant in question should be obtained and placed on file.

"Presumably the Warrant will have been returned by the Bank to the former Treasurer in whose name the balance stood.

"We suggest you file this letter with our original report, and trust that this will make the matter clear.

"Very truly yours,

"LOVEJOY, MATHER, HOUGH & STAGG."

The warrant in question was obtained from the bank by the Treasurer and exhibited at the meeting, so that this matter of long standing has been finally cleared up.

The following resolution was then presented and on roll call carried, 4 ayes, 0 noes:

"*Resolved,* That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750, which shall be assessed upon the joint municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further, that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"*Resolved,* That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 13th day of June, 1918.

"This is the assessment for the 2d quarter of 1918."

The Chairman announced that nominations were in order for officers for the ensuing year.

The following gentlemen having been duly nominated were unanimously elected:

Chairman—Francis Speir.
Vice-Chairman—Wellington Campbell.
Treasurer—Simeon H. Rollinson.
Secretary—Edward S. Rankin.
Engineer—Alexander Potter.
Counsel—Adrian Riker.
Chief Inspector—Cory W. Sandford.
Assistant Inspector—John J. Keating.

In view of the failure to obtain necessary legislation for the past two years, it was decided to elect a Legislative Committee at this time, and on motion of Mr. H. J. Stanley was elected chairman of this Committee, to select such associates as he might desire.

The Chairman appointed Dr. Campbell, Mr. Bartow and Mr. Pringle as auditing committee, Mr. Stanley to act during Mr. Pringle's absence.

It was decided to hold the annual inspection during the latter part of July, the date to be named later.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee, ayes 4, noes 0:

Alexander Potter, May salary	$ 83.33
C. W. Sandford, May salary and horse	170.00
J. J. Keating, May salary	100.00
E. S. Rankin, May salary and office	35.16
Weibezahl Print, printing minutes	28.09
N. Y. Telephone Co., telephone service	6.80
Maher & Flockhart, manhole heads	88.00
B. E. Larney, services for year 1917	10.00
Francis Speir, Executive Committee	15.00
Wellington Campbell, Executive Committee	15.00
H. J. Stanley, Executive Committee	10.00
N. S. Bartow, Executive Committee	15.00
Chas. Lehrer, Executive Committee	15.00
H. R. VanDuyne, Executive Committee	10.00
C. W. Sandford, expense account	5.75
J. J. Keating, expense account	4.30
E. S. Rankin, expense account	1.37
E. S. Rankin, Sec'y, petty cash	15.00
E. S. Rankin, Sec'y, petty cash extra labor	200.00
	$827.80

On motion adjourned at 9:15 P. M.

EDWARD S. RANKIN,
Secretary.

Annual Inspection, July 25, 1918.

The annual inspection of the Joint Sewer was held on the above date, the party leaving the Newark City Hall in automobiles at 10 A. M. and proceeding direct to the outlet at the foot of Bayway.

From this point the line of the Joint Sewer was followed up Bayway to the junction of the Roselle Park line, stops being made at several points to inspect the flow through the sewer; thence through Roselle Park and Union Township, stopping at the tunnel section to the centre of Summit. Leaving Summit the course was westerly through Millburn, South Orange Township and Village to the Orange Lawn Tennis Club.

Here the party, which consisted of Chairman Speir, Commissioners Stanley, Campbell, Lehrer, Pringle and Van Duyne, the Engineer, Inspectors and Secretary and Clerk Fitzsimmons of South Orange, was entertained at luncheon by the Chairman. Following the luncheon a formal meeting was called by Mr. Pringle, who in a few words expressed the appreciation of all present for the delightful entertainment which had been provided for them, and on putting the sentiment in the form of a motion it was unanimously adopted.

Later in the afternoon the Venturi meter at the West Orange line and points in Newark and Irvington were visited, so that the inspection included practically the entire area drained by the Joint Sewer.

The party separated at 4:15 P. M.

Edward S. Rankin,
Secretary.

Joint Meeting of September 26, 1918.

A regular meeting was held at the South Orange Village Hall on the above date at 8 P. M.

Present: Francis Speir, Chairman, and representatives Stanley of Irvington, Campbell of Millburn, Van Duyne of Newark, Pringle of Summit, Bartow of South Orange and Lehrer of West Orange.

The Engineer and Inspectors were also present, and Engineer Casey of Irvington.

The minutes of the last meeting were approved as printed.

Engineer Potter presented the following report, which on motion was received and ordered printed:

"September 26th, 1918.

"Joint Meeting,
"South Orange, N. J.

"Gentlemen:—

"At our Spring Meeting the cleaning of the main trunk sewers was authorized. This has been completed at an expense of about $246.00 for labor.

"The object of this cleaning was to remove any stringy or hairy matter that may have found lodgment on the side of the pipe and which would interfere with the flow and thus cause to be indicated higher sewage flows than actually existed.

"A careful record has been taken of the flows since the cleaning has been done and a comparison made between these flows and the flows for a similar period last year.

"While the comparison has not covered a sufficient length of time to enable us to state positively the effect of the cleaning, it can be stated that the cleaning has not materially reduced the flows calculated from the depths observed during the year 1917.

"These flows for 1917 indicate that Irvington during that year has discharged perilously near its maximum allotment in the Joint Trunk Sewer and has exceeded its allotment for a week at a time. Other towns have also increased their sewage flow over former years but not to the same extent as Irvington. The exact compilation of these figures will be submitted to the Joint Trunk Sewer at its next meeting when we will have a longer period for comparisons.

"The sewage flow from some of the municipalities contributing to the Joint Trunk Sewer is no greater than should normally be expected, because the population of these municipalities coincide with that assumed as a basis for the ultimate capacity of the sewer when the sewer was built.

"The time is ripe therefore when consideration should be given to the question of what expedient should be adopted to provide additional sewerage facilities for those towns which have already or which in the near future may exceed the capacity which they control in the Joint Trunk Sewer. Shall some equitable arrangement be made for the temporary transfer for a portion of the capacity to those municipalities which have capacity to spare until all shall join in a common enlargement or shall the individual municipality as it approaches its quota tackle the problem

of additional capacity single handed? This is a matter which should receive the most careful consideration on the part of the constituent members of the Joint Trunk Sewer.

"Mr. Rankin, the Secretary, will submit a bill from John H. Schmidt, contractor, to whom was awarded the contract for the repair of Morris Turnpike. Besides the amount of the contract, the Joint Meeting agreed to pay Mr. Schmidt the difference between the cost of material at the time the contract was closed and what he was forced to pay for the material at the time of the construction of this work.

"I regret to have to report that we have not yet received the Richard gauges which were ordered by the Joint Meeting. Mr. DuVivier, the American agent for the Richard Company, assures me, however, that these instruments should be soon on their way as he is now receiving instruments from France ordered shortly before our order was placed with them.

"The old Dibble gauges used since the inception of the sewer have outlived their usefulness, and they have been repaired so many times that the results that we secured from them are practically negative and we cannot with any assurance of accuracy set down figures of flow which are dependable.

"Respectfully submitted,

"Alexander Potter."

Following the reading of the report an informal discussion was held regarding the capacity of the sewer and the best method of meeting the increased demand for space. No conclusion was arrived at.

The Treasurer being absent on account of war work, his report was read by the Secretary, and on motion received and ordered printed:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on the 13th day of June, 1918, the date of his last report, he had on deposit in the Orange National Bank the sum of $1174.91, with two warrants, 2017 for $2.50 and 2207 for $5, outstanding, so that the total amount of cash on hand at that date was the sum of $1167.41.

"The Treasurer further reports that since the date of said last report, he has deposited in the Orange National Bank the sum of $1759 and has been credited with interest amounting to $9.07, so that the total amount of cash on hand amounted to $2935.48, as shown on Schedule 1, hereunto annexed.

"The Treasurer further reports that since the date of his last report, he has executed warrants, as shown on Schedule 2, hereunto annexed, amounting to $1617.28, so that the total amount of cash on hand at the date of this report is the sum of $1318.20. The warrants hereinabove referred to aggregating $7.50 are still outstanding, so that he now has on deposit in the Orange National Bank the sum of $1325.70.

"All of which is respectfully submitted this 26th day of September, 1918.

"Simeon H. Rollinson,
"Treasurer."

Schedule 1.

1918.		
June 13.	Balance	$1,167.41
" 15.	Millburn	250.00
" 15.	West Orange	250.00
" 21.	Irvington	250.00
" 22.	Newark	500.00
July 3.	Summit	250.00
" 13.	Maher & Flockhart	9.00
June 17.	South Orange	250.00
	Interest	9.07
		$2,935.48

Schedule 2.

1918.		
June 19.	Weibezahl Print	$ 28.09
" 19.	N. Y. Telephone Co.	6.80
" 19.	Maher & Flockhart	88.00
" 19.	B. E. Larney	10.00
" 19.	Francis Speir	15.00
" 19.	Wellington Campbell	15.00
" 19.	H. J. Stanley	10.00
" 19.	N. S. Bartow	15.00
" 19.	Charles Lehrer	15.00
" 19.	H. R. Van Duyne	10.00
" 19.	C. W. Sandford	5.75
" 19.	J. J. Keating	4.30
" 19.	E. S. Rankin	1.37
" 19.	E. S. Rankin, Sec'y	15.00
" 29.	Alexander Potter	83.33
" 29.	S. H. Rollinson	62.50
" 29.	C. W. Sandford	200.00
" 29.	J. J. Keating	120.00
" 29.	E. S. Rankin	35.16
July 30.	Alexander Potter	83.33
" 30.	C. W. Sandford	200.00

"	30.	J. J. Keating	120.00
"	30.	E. S. Rankin	35.16
Aug.	30.	Alexander Potter	83.33
"	30.	C. W. Sandford	200.00
"	30.	J. J. Keating	120.00
"	30.	E. S. Rankin	35.16
			1,617.28
			$1,318.20

The Secretary then presented the following report:

"Sept. 25, 1918.

"Joint Meeting,

"Gentlemen:

"Your attention is respectfully called to Warrants 2017 for $2.50 to the order of A. J. States Co. and 2207 for $5.00 to the order of C. F. Coaney, which warrants have been outstanding since September 1, 1913, and June 25, 1915, respectively, and are so reported at each meeting by the Treasurer. I would suggest that some action be taken to clean up this matter.

"Respectfully,

"Edward S. Rankin,
"Secretary."

On motion the report was received and after some discussion it was decided to notify Messrs. States and Coaney as to the situation and if the warrants could be found to have them presented for collection, otherwise to have them cancelled and new warrants issued in their place.

The Secretary stated that the Warrant Book was nearly used up, and on motion he was authorized to purchase a new Warrant Book and such other stationery as might be necessary.

The following resolution was read and on motion carried, 5 ayes, 0 noes:

"Resolved, That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750, which shall be assessed upon the joint municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount, or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further, that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED, That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 26th day of September, 1918.

"This is the assessment for the 3rd quarter of 1918."

The following bills were read and on motion ordered paid after being approved by the Auditing Committee, 5 ayes, 0 noes:

Alexander Potter, June salary	$ 83.33
S. H. Rollinson, April, May, June salary	62.50
C. W. Sandford, June salary and horse	200.00
J. J. Keating, June salary	120.00
E. S. Rankin, June salary and office	35.16
Alexander Potter, July salary	83.33
C. W. Sandford, July salary	200.00
J. J. Keating, July salary	120.00
E. S. Rankin, July salary and office	35.16
Alexander Potter, August salary	83.33
C. W. Sandford, August salary and horse	200.00
J. J. Keating, August salary	120.00
E. S. Rankin, August salary and office	35.16
N. Y. Telephone Co., telephone service	16.10
Weibezahl Print, printing June minutes	7.11
Lovejoy, Mather, Hough & Stagg, auditing books	50.00
Adrian Riker, retainer	250.00
C. W. Sandford, expense account	13.60
J. J. Keating, expense account	3.70
E. S. Rankin, Sec'y, petty cash	96.00
J. H. Schmidt, Jr., repairs to Morris Avenue	349.67
Alexander Potter, September salary	83.33
S. H. Rollinson, July, August, September salary	62.50
C. W. Sandford, September salary and horse	200.00
J. J. Keating, September salary	120.00
E. S. Rankin, September salary and office	35.16
	$2,665.14

After a general discussion on legislation and the necessity of an early introduction of the proposed bills, the meeting adjourned at 9 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of December 5, 1918.

A regular meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Present: Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; and Messrs. H. R. Van Duyne, Newark; N. S. Bartow, South Orange; H. J. Stanley, Irvington; and Charles Lehrer, West Orange. The Engineer, Treasurer and Inspectors were also present, and Engineer Casey of Irvington.

The minutes of the last meeting were approved as printed.

The Treasurer presented the following report, which after being read was approved and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting.

"Gentlemen:

"The Treasurer respectfully reports that on September 26th, 1918, the date of his last report, he had on deposit in the Orange National Bank the sum of $1325.70 with two warrants, 2017 for $2.50 and 2207 for $5. outstanding, so that the total amount of cash on hand on that day was the sum of $1318.20.

"The Treasurer further reports that since the date of his last report, he had deposited in the Orange National Bank the sum of $1500., as shown on Schedule I. hereunto annexed, so that the total amount of cash on hand amounted to $2,818.20.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule 2. hereunto annexed amounting to $2164.15, so that the total amount of cash on hand at the date of this report is the sum of $654.05. Warrants 2017 for $2.50; 2207 for $5. and 2563 for $35.16 aggregating $42.66 are now outstanding, so that the Treasurer now has on deposit in the Orange National Bank the sum of $696.71.

"All of which is respectfully submitted this 5th day of December, 1918.

SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1918.			
Sept.	26.	Balance	$1,318.20
Oct.	2.	Summit	250.00
"	7.	Millburn	250.00
"	7.	Newark	500.00
"	15.	West Orange	250.00
"	21.	South Orange	250.00
			$2,818.20

SCHEDULE 2.

1918.			
Sept.	27.	N. Y. Telephone Co.	$ 16.10
"	27.	Weibezahl Print	7.11
"	27.	Lovejoy, Mather, Hough & Stagg	50.00
"	27.	Adrian Riker	250.00
"	27.	C. W. Sandford	13.60
"	27.	J. J. Keating	3.70
"	27.	E. S. Rankin, Sect.	96.00
"	27.	J. H. Schmidt, Jr.	349.67
Oct.	30.	Alexander Potter	83.33
"	30.	S. H. Rollinson	62.50
"	30.	C. W. Sandford	200.00
"	30.	J. J. Keating	120.00
"	30.	E. S. Rankin	35.16
"	30	Alexander Potter	83.33
"	30	C. W. Sandford	200.00
"	30.	J. J. Keating	120.00
"	30	E. S. Rankin	35.16
Nov.	29.	Alexander Potter	83.33
"	29.	C. W. Sandford	200.00
"	29.	J. J. Keating	120.00
"	29.	E. S. Rankin	35.16
			2,164.15
			$ 654.05

The Engineer then read his report:

December 5th, 1918.

"JOINT MEETING,
"South Orange, N. J.

"Gentlemen:

"Your Engineer respectfully reports as follows:

"In a conference with Counsel Mr. Riker has promised to

look over the two bills which failed to pass the Legislature last year and advise the Joint Meeting if in his judgment any amendments to these bills are necessary to meet the objections raised at the last Legislature. His present opinion is that no modification in these bills is necessary.

"During the past two years we have practiced every economy consistent with the safety of the Joint Sewer to keep down the expenses of repairs. In fixing the budget for the ensuing year, however, at least One Thousand Dollars should be added for the replacement of manhole heads and covers, and the construction of several additional manholes at points along the sewer where cleaning is necessary and the cleaning rendered more difficult by reason of a long space between certain consecutive manholes.

"The Chief Inspector reports that Mr. A. J. States has lost the check issued to him for insurance on the equipment and requests the issuance of a new voucher in its place.

"Your Engineer has been keeping in touch with the American agents of the Richard Gauges ordered to take the place of the old Dibble gauges but, further than receiving promises that the Richard people would execute this order at the earliest possible moment, he has no definite statement from them when these gauges will be delivered. The Richard gauge is so much superior to any other measuring device that I hesitate about recommending the cancellation of the order and the placing of it with other manufacturers. The New York agents have promised a more definite statement as to the time of delivery.

"At the request of the Irvington authorities, a number of manhole covers on August Street, Washington Ave., Clinton Avenue and Orange Place have been sealed with asphaltum. These tight manholes will confine the sewer gases to the sewer itself until they force the traps or find a passage through unsealed manholes lower down the main Joint Trunk Sewer. If any gasoline should get into the sewer these sealed manholes would the more readily cause an explosion of the sewer.

"If an explosion should occur Counsel is of the opinion that the Joint Meeting which is charged with the responsibility of operating the sewer can not shift the responsibility and he also states that if the sealing of the manhole covers will result in damage they should not be sealed.

"While the chance of an explosion may be small, the Joint Meeting should be made aware of the condition that exists, and take such action as they may consider necessary in the premises.

"Mr. Riker is also of the opinion that the causing of a nuisance is also a matter for which the Joint Meeting would be responsible.

"The Inspector reports that he has gone carefully over all of the sewer lines since the wrecking of the Gillespie Plant at

Morgan's Point and can discover no effect upon the sewer from the explosion.

"The estate of John Kean made a complaint to our Inspector that the Joint Trunk Sewer was not functioning properly because his long private sewer was not working.

"Upon inspection it was found that the Joint Sewer was in good shape but that the private sewer was packed with grease, cotton waste and a few bricks, which became dislodged from the bottom of the manhole when they attempted to clean it with their fire hose.

"The Inspector also reports that he has had trouble with the flow from the International Coal Products Company in Irvington by reason of their failure to keep their sumps clean and they have promised to be more careful in this regard in the future.

"Respectfully submitted,
ALEXANDER POTTER."

After a full discussion on the several points mentioned, the report as a whole was approved and ordered printed.

Regarding legislation, Mr. Stanley, Chairman of the Legislative Committee was requested to consider the advisability of presenting a bill to the Legislature changing the beginning of the fiscal year from April 1st to January 1st, in order to conform with the fiscal year now required of the several municipalities.

At the request of Mr. Stanley, Mr. Van Duyne was appointed as a member of the Legislative Committee.

On motion the Secretary was directed to procure copies of the bills presented at the next session of the Legislature. 5 ayes, 0 noes.

The recommendation of the Engineer that $1000 be added to the budget for the building of additional manholes, and for substituting heavier heads on certain existing manholes was on motion approved and the Secretary was directed to notify the several municipalities that the budget for the ensuing year would be $8,000.00.

In view of Counsel's opinion as to the liability of the Joint Meeting in case of explosion, it was agreed that the manhole openings on Augusta Street, Irvington, be unsealed.

At the request of Mr. Stanley, Mr. Potter agreed to advise with Mr. Casey as to which of the Irvington sewers be periodical-

ly flushed in order to prevent the odors complained of by the residents of that town.

A general discussion on the subject of flow measurements was held Mr. Stanley advocating the installation of more Venturi meters in order to determine more accurately the flows of Newark and Irvington. The Engineer was directed to report on the matter at the next meeting.

The Secretary presented the following letter from Mr. A. J. States:

"Mr. E. S. Rankin,
"Secretary, Joint Meeting.
"Dear Sir:

"During the year 1913 I issued an insurance policy for you on tools, etc. and Mr. C. Sandford informs me that in September of that year you issued a check for $2.50 in payment of same. If same was sent to me I have no record of it and would request that you issue a new one and stop payment on the other.

"Yours very truly,
"A. J. States."

Dr. Campbell requested that similar action be taken in regard to the Coaney warrant.

The following motions were then made and carried:

"Whereas, on Septemer 1, 1913, warrant No. 2017 for $2.50 was issued to A. J. States Co.

"And whereas it appears that the said warrant No. 2017 has been lost;

"Therefore be it Moved, That the Treasurer be and he is hereby authorized to stop payment at the Bank on warrant No. 2017 and the Secretary is hereby directed to issue duplicate warrant in its place.

"Whereas, on June 25, 1915, warrant No. 2207 for $5.00 was issued to C. F. Coaney;

"And whereas it appears that the said warrant No. 2207 has been lost;

"Therefore be it Moved, That the Treasurer be and he is hereby authorized to stop payment at the Bank on warrant No. 2207 and the Secretary is hereby directed to issue duplicate warrant in its place.

The following resolution was then presented and on motion carried. 5 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750. which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 5th day of December 1918.

This is the assessment for the fourth quarter of 1918.

The following bills were read and on motion ordered paid, after being approved by the Auditing Committee, 5 ayes, no noes.

Alexander Potter, October salary	$ 83.33
C. W. Sandford, October salary and horse	200.00
J. J. Keating, October salary	120.00
E. S. Rankin, October salary and office ..	35.16
Alexander Potter, November salary	83.33
C. W. Sandford, Nov. salary and horse .	200.00
J. J. Keating, November salary	120.00
Slater Press, Warrant Book	18.00
N. Y. Telephone Co., Telephone Service	19.20
Weibezhal Print, Minutes of Sept. meeting	7.68
C. Wolber Co., Stationery	15.00
A. J. States, New warrant in place of No. 2017 cancelled	2.50
C. F. Coaney, New warrant in place of No. 2207 cancelled	5.00
Francis Speir, Executive Committee	15.00
H. J. Stanley, Executive Committee ...	15.00
Wellington Campbell, Executive Committee	15.00
E. G. Pringle, Executive Committee	10.00
N. S. Bartow, Executive Committee ...	10.00
H. R. Van Duyne, Executive Committee	15.00
Chas. Lehrer, Executive Committee	15.00
E. S. Rankin, Secy., Petty Cash	15.00
	1054.36

On motion adjourned at 9.50 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of February 6, 1919.

A regular meeting of the Joint Meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Those present were Francis Speir, Chairman, Dr. Wellington Campbell, Millburn; and Messrs. H. J. Stanley, Irvington; H. R. Van Duyne, Newark; N. S. Bartow, South Orange; E. G. Pringle, Summit, and B. P. Laidlaw, West Orange. The Engineer, Treasurer, and Inspectors were also present and Engineer Casey of Irvington.

On motion the minutes of last meeting were approved as printed.

Engineer Potter presented the following report:

February 6th, 1919.

"Joint Meeting,

"Gentlemen:

"The principal matter that your Engineer desires to take up at this meeting is the question of contribution of sewage flows from the various municipalities during the years of 1917 and 1918. Tables showing the average daily flow throughout the year and during week of maximum daily flow are submitted herewith.

"A year ago in endeavoring to make up the record of contributing flows from the various municipalities I was impressed by the near approach to their alloted capacity of several of the municipalities contributing to the Joint Trunk Sewer. I was loathe to submit my usual statement because if the records submitted were correct it was a matter of considerable importance and alarm to the various municipalities. Consequently I decided not to submit a statement of these flows but on the other hand requested permission from the Joint Trunk Sewer to have the main sewers thoroughly cleaned during the summer of 1918 so that the records of flow which are computed on the assumption that the sewers are clean and should not be affected by the retarding and uncertain influence of foul sewers.

"The result of this cleaning has in some instances reduced the reading of the quantity of flow over that which was recorded prior to the cleaning of the sewers. It will be noted however, that some of the cities are approaching perilously near their maximum requirement, Irvington for instance for two consecutive years, averaging 85.3 per cent and 85.8 per cent respectively, for the average daily flow through-

out the year. This, however, is not in the least surprising, for the population of Irvington already exceeds the maximum population for which the sewer was designed to serve. It will be noted that during the week of maximum flow Irvington exceeded its capacity by 4.7 per cent during the year 1917 and 20.2 per cent during the year 1918.

"During the year 1917, according to the table Newark's contribution throughout the year was 63.7 per cent of its capacity and 68.4 per cent in 1918. South Orange was 40.9 per cent and 40.4 per cent in 1918. West Orange was 63.9 per cent and 64.2 per cent in 1918. Summit was 40.6 per cent in 1917 and 38.6 per cent in 1918, and Millburn was 67.6 per cent in 1917 and 59.9 per cent in 1918.

"In determining the flow of sewage for Summit, there has been added to the flow as recorded at the Summit line a proportionate part of the infiltration through the main trunk sewer in Millburn on the theory that this sewer having been constructed conjointly by Millburn and Summit and paid for in proportion to its respective holdings and the infiltration in the sewer should not be wholly chargeable against the town through which the Joint Trunk Sewer has been constructed. The same method has been arrived at in determining the flows from Irvington and South Orange, through both of which municipalities trunk sewers have been constructed. So far there has been no ruling by the Counsel for the Joint Meeting as to whether the infiltration on the Joint Trunk Sewers should be charged against the capacity of the towns in the manner adopted in the preparation of the tables of flows for the last two years. It is a matter of some moment especially to the towns that are nearing their capacity and I suggest that Counsel be asked to render an opinion upon this point.

"We have yet no definite statement from the Richard Company as to when we can expect the delivery of the guages ordered some time ago.

"I have taken up with the Builders Iron Foundry the question of furnishing additional Venturi meters for a more accurate determination of the sewage flow, but they are loathe to quote a price at the present time which is less than 80 per cent higher than the price formerly prevailing. We will meet this same situation in determining the cost of constructing the chamber in which to house the Venturi meters. The cost of the meter itself is from $400.00 to $450.00, as opposed to $250.00, the original price paid to the Builders Iron Foundry two years ago. The chambers will probably cost in the neighborhood of a thousand dollars, although it is difficult to suggest a location on any other part of the system where construction work will be even approximately as difficult, as at the West Orange-South Orange line

"At the last meeting, Commissioner Stanley of Irvington suggested that the time had arrived when we should have a more accurate determination of these sewage flows; consequently I submit this estimate of cost in case it should be considered of sufficient importance to proceed at once or in the early spring with the construction of these meters for the more accurate determination of the sewage flow of Irvington. Of course it is difficult to say at this time what saving can be affected by waiting.

"The Chief Inspector has requested information as to whether the Joint Meeting desired to dispose of the 12 inch pipe extending from Union Avenue to the Joint Trunk Sewer over the private right of way near Lyons Avenue. Castle's Ice Cream Co., have offered him $10.00 for this pipe. The abandonment of this right-of-way came up once before, but I do not recall that any definite action was taken in reference to this matter. Is it the desire of the Joint Meeting to abandon this right-of-way? The selling and removal of this pipe would constitute a virtual abandonment of the right of way.

"I desire to call the attention of the Joint Meeting to the action of the Elizabethtown Water Company. Instead of abandoning the use of water of the Elizabeth River with all the potential and actual pollution from the closely built up territory of Irvington, Newark, and a portion of East Orange, the Elizabethtown Water Company is completing the construction of a filter plant from this supply. It will be remembered that both the State Board of Health and the Water Supply Commission have both placed themselves on record as being opposed to the use of this stream as a source of water supply, and it seems surprising that the continued use of this river as a source of water supply should be tolerated.

"In further corroboration of the statements made so many times concerning the travel of odors in sewers, I desire to point out to the Joint Meeting that the Mesca Plant, supposed to have been used for munition manufacture, discharges wastes into the sewers near the corner of Chancellor Avenue and Coit Street, and that a very pungent odor can be plainly detected in the sewer four miles below that point.

"Respectfully submitted,

"ALEXANDER POTTER."

JOINT SEWER.

Table I.

Average Daily Contributing Flow to the Joint Sewer by the Various Municipalities for the year 1917

(Expressed in thousand gallons per day.)

	Newark	Irvington	So. Orange Village	W. Orange	Summit	Millburn	Total
Average daily flow for the year....	2716	2879	1400	2255	1715	1259	12,224
Alloted Capacity	4263	3373	3421	3528	4227	2188	21,000
Per cent of cap.	63.7	85.3	40.9	63.9	40.6	57.6	58.2

Table II.

Average Daily Contributing Flow to the Joint Sewer by the Various Municipalities during Week of Maximum Flow in the year 1917

(Expressed in thousand gallons per day.)

	Newark	Irvington	So. Orange Village	W. Orange	Summit	Millburn
Average daily flow for the week	4147	3532	3275	3230	3502	1847
Alloted Capacity	4263	3373	3421	3528	4227	2188
Per cent of cap.	97.2	104.7	95.6	91.6	82.9	84.5
Ratio of maximum weekly flow to average flow for year	1.53	1.23	2.34	1.43	2.04	1.47

JOINT SEWER.

Table III.

Average Daily Contributing Flow to the Joint Sewer by the Various Municipalities for the year 1918

(Expressed in thousand gallons per day.)

	Newark	Irvington	So. Orange Village	W. Orange	Summit	Millburn	Total
Average daily flow for the year	2919	2896	1380	2265	1628	1156	12,244
Alloted Capacity	4263	3373	3421	3528	4227	2188	21,000
Per cent of cap.	68.4	85.8	40.4	64.2	38.6	52.9	58.3

Table IV.

Average Daily Contributing Flow to the Joint Sewer by the Various Municipalities during Week of Maximum Flow in the year 1918

(Expressed in thousand gallons per day.)

	Newark	Irvington	So. Orange Village	W. Orange	Summit	Millburn
Average daily flow for the week	4145	4054	2985	3430	2670	2007
Alloted Capacity	4263	3373	3421	3528	4227	2188
Per cent of cap.	97.2	120.2	87.3	97.2	63.2	91.5
Ratio of maximum weekly flow to average flow for year	1.42	1.40	2.16	1.51	1.64	1.73

After some discussion on the question of charging the infiltration on the Joint Sewer to all contributing municipalities instead of the one in which the sewer lies, as has heretofore been done, it was moved and carried that this question be submitted to Counsel for an opinion.

The matter of the abandonment of the right of way in Irvington was after some discussion, on motion of Mr. Stanley held in abeyance till the next meeting.

Mr. Stanley requested that any complaints regarding the sewers in Irvington be referred to him by the inspectors, instead of waiting to report to the Joint Meeting. The inspectors were so instructed.

The report of the Engineer was then received as a whole and ordered spread on the minutes.

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting.

"Gentlemen:

"The Treasurer respectfully reports that on the 5th day of December 1918, the date of his last report, he had on deposit in the Orange National Bank, the sum of $696.71 with warrants 2017 for $2.50, 2207 for $5. and 2563 for $35.16 outstanding, so that the total amount of cash on hand at the date of said report was $654.05.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $2,000 and stopped payments on warrants aggregating $7.50 as shown on Schedule I hereunto annexed, so that the total amount of cash on hand amounted to $2,654.05.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule 2 hereunto annexed amounting to $1,116.98 two of which said warrants were in duplicate of warrants 2017 for $2.50 and 2207 for $5. formerly outstanding, and warrant 2563 having been presented for payment the total amount of cash on hand exactly corresponds with the amount on deposit in the Orange National Bank, to wit, the sum of $1,544.57.

"All of which is respectfully submitted this 6th day of February, 1919.

"Simeon H. Rollinson,
"Treasurer."

SCHEDULE 1.

1918.				
Dec.	5	Balance	$654.05	
"	10	Irvington	250.00	
"	10	Irvington	250.00	
"	16	Millburn	250.00	
"	18	Newark	500.00	
"	18	Summit	250.00	
"	16	South Orange	250.00	
"	19	West Orange	250.00	
		Payment stopped on Warrant 2017-2.50	2.50	
		Payment stopped on Warrant 2207-5.00	5.00	
				$2,661.55

SCHEDULE 2.

1918.				
Dec.	6	Slater Press	$18.00	
"	6	N. Y. Tel. Co.	19.20	
"	6	Weibezahl Print	7.68	
"	6	C. Wolber Co.	15.00	
"	6	A. J. States (Duplicate)	2.50	
"	6	C. F. Coaney (Duplicate)	5.00	
"	6	Francis Speir	15.00	
"	6	H. J. Stanley	15.00	
"	6	Wellington Campbell	15.00	
"	6	N. S. Bartow	10.00	
"	6	E. G. Pringle	10.00	
"	6	Charles Lehrer	15.00	
"	6	H. R. Van Duyne	15.00	
"	6	E. S. Rankin, Sec'y	15.00	
"	30	Alexander Potter	83.37	
"	30	S. H. Rollinson	62.50	
"	30	C. W. Sandford	200.00	
"	30	J. J. Keating	120.00	
"	30	E. S. Rankin	35.24	
1919.				
Jan.	31	Alexander Potter	83.33	
"	31	C. W. Sandford	200.00	
"	31	J. J. Keating	120.00	
"	31	E. S. Rankin	35.16	
				$1,116.98
				$1,544.57

For the Legislative Committee Mr. Stanley reported that he and Mr. Van Duyne had held a conference with Mr. Riker, and that Mr. Riker had prepared the three bills requested by the Joint Meeting and given them to Assemblyman Barrett for presentation to the Assembly. In view of the fact that the Assembly had not yet organized it was suggested that with Mr. Riker's approval Senator Pilgrim be requested to introduce the bills in the Senate in order to gain time. Mr. Van Duyne volunteered to see Mr. Riker in regard to the matter.

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee, 6 ayes, no noes.

Alexander Potter, December salary ...	$ 83.37
S. H. Rollinson, Oct., Nov., Dec. salary	62.50
C. W. Sandford, Dec. salary and horse	200.00
J. J. Keating, December salary	120.00
E. S. Rankin, Dec. salary and office ..	35.24
Alexander Potter, January salary	83.33
C. W. Sandford, January salary and horse	200.00
J. J. Keating, January salary	120.00
E. S. Rankin, January salary and office	35.16
B. E. Larney, Services for year 1918	10.00
Weibezahl Print, Printing minutes ...	6.18
N. Y. Telephone Co., Telephone service	17.75
American Surety Co., Premium on Treas. Bond	20.00
J. J. Keating, Expense Account	2.59
E. S. Rankin, Expense Account	1.56
E. S. Rankin, Secy., Legislative Bills	10.00
	1007.68

On motion the meeting adjourned at 9:10 P. M.

E. S. Rankin,
Secretary.

Joint Meeting of April 17, 1919.

A regular meeting of the Joint Meeting was held at the South Orange Village Hall on the above date at 8 P. M.

Those present were Francis Speir, Chairman; H. J. Stanley, Irvington; H. R. Van Duyne, Newark; N. S. Bartow, South Orange; E. G. Pringle, Summit, and B. P. Laidlaw, West Orange. The Engineer, Treasurer, and Inspectors were also present, and Engineer Casey of Irvington.

The minutes of the last meeting were approved as printed.

The Engineer presented the following report:

"April 17th, 1919.

"JOINT MEETING.

"Gentlemen:

"I have been advised by the Jules Richard agent in New York that the guages for the weir manholes have at last been shipped and we should be in a position before long to replace the worn-out meters, some of which have been in service since the inception of the Joint Trunk Sewer.

"The Legislative Committee will advise you that the three bills introduced on behalf of the Joint Meeting have all passed the legislature and have been signed by the Governor. The information as to the signature of the Governor to the bills having been secured from the newspaper reports, it was deemed advisable after consultation with the Chairman of the Joint Meeting to have this report officially confirmed, and today I called up the Secretary of State of New Jersey, who advised me that Bills Nos. 55 and 56 were approved by the Governor on April 15th. Bill No. 59 was passed and approved some weeks ago.

"The bills just signed by the Governor are the two important bills in which we were interested, the third bill simply authorizing a change in the fiscal year to conform with the fiscal years of the various municipalities forming the Joint Meeting.

"The importance of one of the bills just signed by the Governor, making it a crime to interfere with the sewer was demonstrated quite recently. On March 31st, the Chief Inspector was notified by the County Superintendent of Roads, George Eager, that a manhole on the Joint Trunk Sewer on Millburn Ave., was purging and upon investigation it was found that the 24" trunk sewer on Millburn Ave. was blocked by a garbage can, which I asked the Inspector to bring to the meeting tonight and which you have doubtless already seen.

"The garbage can, 20" in diameter and 24" long was inserted, in the sewer, according to the Chief Inspector, through a manhole on the Brown farm, four manholes above Millburn Ave., and was removed from the third manhole on Millburn Ave., below the point where the trunk sewer leaves the private right-of-way along the Rahway River. It speaks well for the proper laying of the Joint Trunk Sewer, when an object as large as this, can travel through the sewer for a distance of half a mile, before coming to a final stop. Besides the garbage can, the Inspector found a great many rocks and sticks which had also been thrown into the sewer at the same manhole.

"The Inspector can suggest no way by which he can follow up the culprits in this case, but had been advised by the man in charge of the dump for the Township of South Orange, that a number of school boys make it a habit of playing in the afternoon in the vicinity of this manhole. The dump begins about 300' below where the garbage can was thrown into the sewer.

"I would, therefore, suggest that the Secretary be instructed to notify the superintendents of all schools within reasonable proximity to the Joint Trunk Sewer, calling attention to the damage that has been done and notifying them of the law governing such cases. I would also recommend that proper notices be printed reciting the law and offering a reward for the conviction of persons interfering in any way with the Joint Trunk Sewer and posted along the line of the Joint Trunk Sewer.

"Representatives from the Clinton Cemetery I understand are to be in attendance at the Joint Meeting to secure permission from the Joint Meeting for the use of the abandoned sewer across lands now owned by them and extending from Union Ave. south of Lyon Ave. to the Elizabeth River.

"I am of the opinion that the Joint Trunk Sewer should not relinquish any rights that they may have in this or any other sewer, but that if it is deemed advisable to permit the cemetery to make use of this sewer for drainage purposes that such right be revokable at the pleasure of the Joint Meeting after due notice has been given.

"A rather interesting condition has arisen in connection with access to our sewer line on the fourth section in South Orange near the West Orange line. The Joint Trunk Sewer right-of-way adjoins the right-of-way of the Swamp Line Railroad. In subdividing the property on Hillside Terrace, which parallels our sewer to the west, deeds for these lots have been given across our right-of-way, subject, however, to our right-of-way agreement, and a fence has been constructed along the railroad right-of-way.

"The owners of the property at the Venturi meter manhole

have fenced in the Venturi meter on three sides leaving the side next to the railroad open. The owner of the property upon which the old weir manhole is located some four hundred feet below, insists that we enter the sewer through Hillside Ave. The representatives of the Joint Meeting have no legal right to cross this property on Hillside Ave. neither has it in fact a legal right to enter the Joint Trunk Sewer along the railroad right-of-way. It is impossible, however, to get access to our sewer from Montrose Ave., over our legal right-of-way, for the various owners of lots on Hillside Ave. have constructed garages on the back of their lots over our right-of-way, making it impossible for us to get access to the sewer over the only route where our legal rights are definitely prescribed. So far as the Joint Sewer is concerned, the most convenient way is along the railroad right-of-way, and I would suggest that the property owners, where manholes are located, be obliged to maintain gates in the fence along the railroad right-of-way.

"This whole question involves some neat questions of law which I presume should be referred to counsel. The rights of the Joint Meeting should also be conserved, respecting the existence of garages over the Joint Trunk Sewer against the time when it may be necessary either to rip up the whole line of the sewer either for repair or reconstruction.

"The Inspector requested permission to purchase four pairs of rubber boots, and pending the action of the Joint Meeting I authorized the purchase of these boots, at a total cost of $29.50, and I request confirmation of this action.

"The Inspector requires fifty additional rods to replace those worn out or broken by use, and also twenty-five male couplings for rods which are now unusable, because of broken couplings. I would like to have authority from the Joint Meeting to make these purchases.

"In my report upon the condition of sewers in Irvington, reference was made to the existence of somewhat similar unsanitary conditions in certain parts of Newark's lines. The authority of the Joint Meeting terminates at the Newark line and as Irvington should be protected against any odors passing down the sewers from Newark into the Irvington lines, I would recommend that flap valves or some other similar device be inserted in all connecting sewers between Irvington and Newark, so as to keep gases that may emanate from the Newark sewers within the confines of the City of Newark until such time as Newark cures the evil.

"The sewer engineers of Newark have endeavored from time to time to bring about the modification of the present plumbing code so as to eliminate the house traps, as has been done in Irvington, but as plumbing regulations are in the hands of the Board of Health, no action so far has been secured.

"The Joint Trunk Sewer, therefore, should use whatever influence and authority it has to bring about in Newark reforms which have been suggested to Irvington and which reforms Irvington has undertaken for the elimination of sewer gases, both by the flushing of their sewers and the elimination of their house traps.

"Additional manhole covers are needed, but until the price drops considerably or it becomes obvious that the present price is more or less stabilized we will endeavor to get along without them. I would like authority, however, to purchase ten if it becomes absolutely necessary to do so.

Respectfully submitted,

"ALEXANDER POTTER."

Taking up the recommendations in detail, it was moved and carried that the Secretary be directed to request the Superintendents of Schools, in all municipalities through which the Joint Sewer passes, to warn the boys under their charge that tampering with the sewer was a misdemeanor.

Moved and carried that notices to the same effect be printed and posted along the line of the Joint Sewer. On motion the Secretary was directed to have 300 of such notices printed, the notice to be prepared by the Engineer subject to advise of counsel.

Regarding the request from the Clinton Cemetery Association to purchase the right-of-way near Union Ave., Irvington, Mr. Clover representing the association, appeared before the meeting and stated that they were desirous of improving their property and would be willing to pay a reasonable sum for the right-of-way. After considerable discussion the following motions were made and carried:

Moved that the Joint Meeting reject the offer of the Cemetery Association to purchase the right-of-way.

Moved that the association be requested to submit a sketch, showing what improvements they wish to make, so that the Joint Meeting will be in a position to act more intelligently in the matter.

Moved that counsel be requested to advise whether we can, first without loss of existing rights, allow the Joint Sewer or rights-of-way, or any part thereof, to be used for any purpose by others than the Joint Meeting; and second, whether we can without affecting our present rights, sell, rent or give to the

Clinton Cemetery Association the right to use our at present unused sanitary sewer as a drain for the ground, surface or storm water, said water to be discharged into the Elizabeth River.

Regarding the right-of-way on which the Venturi meter is built, it was moved that the question of our right of access to this right-of-way be submitted to counsel, a sketch showing the situation to be prepared by the Engineer. Carried.

It was duly moved and seconded that the action of the Engineer in purchasing rubber boots for the use of the inspectors and men employed in cleaning the Joint Sewer be approved. Carried, 5 ayes, no noes.

Moved that the Engineer be authorized to purchase the necessary rods and couplings used in cleaning the sewer. Carried, 5 ayes, no noes.

Moved that the Engineer be authorized to purchase such manhole heads and covers as may be immediately necessary, the purchase of any large quantities to be deferred until prices are reduced. Carried, 5 ayes, no noes.

It was moved and carried that the matter referred to in connection with the Newark sewer be referred to the Newark representative and the Engineer.

The whole report was then on motion received and ordered printed in the minutes.

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting.

"Gentlemen:

"The Treasurer respectfully reports that on the 6th day of February, 1919, the date of his last report, he had on deposit in the Orange National Bank the sum of $1,544.57, with no warrants outstanding, to which should be added $8.40 interest, so that the total amount of cash on hand was the sum of $1,552.97.

"The Treasurer further reports that since the date of his last report, he has executed warrants, as shown on Schedule 2, hereunto annexed, amounting to $1,007.56, all of which said warrants have been presented for payment, so that the total

amount of cash on hand exactly corresponds with the amount on deposit in the Orange National Bank, to wit: the sum of $545.41.

"All of which is respectfully submitted this 17th day of April, 1919.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1919.			
Feb. 6.	Balance	$1,544.57	
Mar. 31.	Interest	8.40	
			$1,552.97

SCHEDULE 2.

1919.			
Feb. 7.	B. E. Larney	$ 10.00	
" 7.	Weibezahl Print	6.18	
" 7.	N. Y. Telephone Co.	17.75	
" 7.	American Surety Co.	20.00	
" 7.	J. J. Keating	2.59	
" 7.	E. S. Rankin	1.56	
" 7.	E. S. Rankin, Secretary	10.00	
" 28.	Alexander Potter	83.33	
" 28.	C. W. Sandford	200.00	
" 28.	J. J. Keating	120.00	
" 28.	E. S. Rankin	35.16	
Mar. 29.	Alexander Potter	83.33	
" 29.	S. H. Rollinson	62.50	
" 29.	C. W. Sandford	200.00	
" 29.	J. J. Keating	120.00	
" 29.	E. S. Rankin	35.16	
			$1,007.56
			$ 545.41

The Secretary presented his annual report, which on motion was received and ordered printed in the minutes.

"Newark, N. J., April, 1919.

"JOINT MEETING,

"Gentlemen:

"I present herewith my annual report for the year ending April 1st, 1919."

DISTRIBUTION OF RECEIPTS.

Balance, 1918, Treasurer	$2,225.75
Interest	13.09
Broken Manhole Cover	4.80
Sale of Old Manhole Covers	9.00
Assessments (3 x $1,750)	5,250.00
	$7,502.60

DISBURSEMENTS FOR YEAR.

Salary of Engineer	$1,000.00	
Salary of Secretary	422.00	
Salary of Treasurer	250.00	
Salary of Chief Inspector	2,340.00	
Salary of Assistant Inspector	1,400.00	
Salary of Counsel	250.00	
Repairing Morris Ave.	349.67	
Telephone Service	86.25	
Manhole Heads	88.00	
Labor	363.00	
Expense Accounts	32.87	
Miscellaneous	89.64	
Audit of Books	50.00	
Printing Current Minutes	54.16	
	$6,965.59	
Cash Balance, April 1st, 1919	537.01	
		$7,502.60

SECRETARY'S TRIAL BALANCE.

April 1, 1919.

Cash	$537.01	Maintenance	$637.01
Petty Cash	100.00		
	$637.01		$637.01

The following table is also presented showing a comparison of the main items of expense for the past four years:

Comparison of expenses for past four years ending April 1st:

	1916	1917	1918	1919
Salaries	$5,397.00	$5,357.00	$5,342.00	$5,852.00
Labor	175.00	188.00	161.50	363.00
Printing Minutes	119.44	54.63	41.69	54.16
Telephone	80.89	77.92	87.45	86.25

Extraordinary Expenses	1,200.38	2,287.86	921.89	437.67
Miscellaneous	212.43	101.66	148.59	172.51
	$7,185.14	$8,067.07	$6,703.12	$6,965.59

The main items grouped under extraordinary expenses are for 1916, Reprinting Vol. 1 of Old Minutes and Repair of South Orange Ave. Sewer. For 1917, Reprinting Vol. 2 of Old Minutes, Repairs of Union Ave Sewer and the Venturi Meter. For 1918, Repairs of Morris Ave. Sewer. For 1919, Repair of Morris Ave. pavement.

Respectfully submitted,

EDWARD S. RANKIN,
Secretary.

The Secretary then read the following report of the Legislative Committee.

"April 17th, 1919.

"JOINT MEETING,

"Gentlemen:

"At the request of the Chairman I hereby present the following report of the Legislative Committee.

"The three bills as drafted by our counsel, and which are herewith submitted, were introduced in the Assembly early in the session and after some delays all had finally passed the House and Senate on April 1st. It was then discovered that the titles of Nos. 55 and 56 were defective and it was necessary to have them recalled and amended. When the day of adjournment, April 11th, arrived, Mr. Van Duyne, Mr. Potter and your Secretary went to Trenton and finally succeeded at 4:30 P. M. in having them presented and passed. We also interviewed the Governor, asking for his favorable consideration of the bills, when presented to him. He had in the meantime signed No. 59. At the suggestion of the Secretary, Mr. Riker also wrote the Governor and I am happy to be able to report tonight that they received his signature on April 15th.

"Senate Bill No. 131, which was objected to by Mr. Potter never got out of committee.

"I would respectfully suggest that a vote of thanks be tendered to Mr. Joseph Crawford, who represented the interests of the City of Newark, for the valuable assistance rendered by him to your Committee.

"Respectfully,
"EDWARD S. RANKIN,
"Secretary."

On motion the report was received and ordered printed.

"State of New Jersey.

"Assembly No. 55.

"(Chapter 36, Session Laws of 1899, P. L. 1899, p. 48; Chapter 200, Session Laws of 1910, P. L. 1910, p. 323.)

"A Supplement to an act entitled (as amended by Chapter 200, Session Laws of 1910.)

"'An act to authorize two or more municipalities of this state to jointly construct and maintain outlet or trunk sewers, and to authorize every such municipality to construct local sewers within its corporate limits connecting with or discharging into such joint outlet or trunk sewers,' approved March fifteenth, one thousand eight hundred and ninety-nine.

"Be it enacted by the Senate and General Assembly of the State of New Jersey:

"1. It shall be lawful for municipalities which have entered into joint contracts for the construction and maintenance of joint outlet or trunk sewers under the provisions of the act to which this is a supplement, by supplement or further contract, to enlarge or otherwise increase the capacity of any such joint outlet or trunk sewers and to build and equip plants for the purification or other treatment of the sewage to be disposed of thereby, and all such other works and apparatus as shall be deemed necessary or proper by such contracting municipalities; *provided, however,* that plans and specifications for the construction of such additions, enlargements, additional branch sewers, works devices and plants for the purification or other treatment of sewage shall be submitted to and approved by the Department of Health of the State of New Jersey before the construction of such work is begun; *and provided, further,* that no works, devices or plants for the purification or other treatment of the sewage of such municipalities shall be located or constructed in any municipality hereunder without the consent of the governing body of such municipality, and nothing herein contained shall affect any such plant the location of which has been approved by the State Board of Health prior to the passage of this act. Such contracts shall provide for the payment of the cost of the construction and maintenance of the said public works so contracted for, which shall be paid by each of the contracting municipalities, and the manner of the payment of the same. The execution of any such contract shall be first duly authorized by ordinance or resolution of the governing bodies or boards of said municipalities charged by law with the duty of constructing sewers and drains in the same.

"2. It shall be lawful for such contracting municipalities to admit any other municipality to participation in the use and the cost of the construction and maintenance of such joint out-

let or trunk sewer, and to enter into contract with any such other municipality for participation in the use and in the cost of construction and maintenance of such outlet or trunk sewer, which said contract shall define and determine the terms and conditions under which such other municipalities shall be so admitted; and said contract shall be authorized on behalf of all of the municipalities parties thereto by ordinance or resolution of the governing bodies or boards charged by law with the duty of constructing sewers or drains in such municipalities.

"3. This act shall effect immediately."

"State of New Jersey.

"Assembly No. 56.

"An act to amend an act entitled, 'A further supplement to an act entitled, "An act to authorize two or more municipalities in this state to jointly construct and maintain outlet or trunk sewers, and to authorize every such municipality to construct local sewers or systems of sewers within its corporate limits, connecting with or discharging into such joint outlet or trunk sewers," approved March fifteenth one thousand eight hundred and ninety-nine," the title of which said act of one thousand eight hundred and ninety-nine was superseded by the title herein recited by act approved April ninth, one thousand nine hundred and ten, which said further supplement was approved April fourteenth, one thousand nine hundred and five.

"Be it enacted by the Senate and General Assembly of the State of New Jersey:

"1. Section two of the act to which this is an amendment is hereby amended to read as follows:

2. Upon the completion of any such public improvement, the joint meeting of the governing bodies or boards of the municipalities jointly contracting therefor, reorganized for the purpose of maintaining and operating the same, shall, before the first day of December in each year, make an estimate of and determine upon the probable cost and expense of maintaining and operating such public improvement for the year beginning on the first day of January then next, and shall cause the same to be certified by the secretary of the joint meeting to each of the municipalities contracting for said improvement on or before such first day of December in each year, and thereupon may from time to time, by resolution, duly adopted by the joint meeting, require said municipalities to pay to the treasurer of the joint meeting the whole or any part of their pro rata shares of such estimated amount for the year, in advance, and each municipality shall within thirty days after receiving such requisition pay to the treasurer of the joint meeting its pro rata share of the amount so required under such resolution; if the

amount so estimated and determined shall prove insufficient for the maintenance and operation of such public improvement for the year, the joint meeting shall, notwithstanding the making of such estimate and determination, have power to require the municipalities contracting for such public improvement to pay such additional amount as may be necessary for said purpose."

"STATE OF NEW JERSEY.

"ASSEMBLY No. 59.

"A SUPPLEMENT to an act entitled, 'An act for the punishment of crimes (Revision of 1898),' approved June fourteenth, one thousand eight hundred and ninety-eight.

"BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

"1. Any person or corporation who shall, without the authority of the body, board or person in control of any main intercepting sewer, system of sewers, branches, sewerage plant and work and appurtenances, or otherwise, unlawfully break into, make connection with, interfere with or intentionally damage such main intercepting sewer, system of sewers, branches, sewerage plant and work and appurtenances, or any part thereof, shall be guilty of a misdemeanor.

"2. This act shall take effect immediately."

It was moved and seconded that a vote of thanks be tendered to Mr. Crawford for his able assistance, and that the Secretary be instructed to communicate this action to Mr. Crawford. Carried.

A vote of thanks was also given to the Committee, the Engineer and Secretary.

The Secretary presented the following resolution:

"April 17th, 1919.

"Gentlemen:

"At a meeting of the Joint Meeting, held April 17th, 1919, the following resolution was passed:

"RESOLVED: That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1,750, which shall be assessed upon the joint municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the joint sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to

notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 17th day of April, 1919."

This is the assessment for the first quarter of 1919.

Carried 4 ayes, no noes.

In the absence of Dr. Campbell, Mr. Laidlaw was appointed on the Auditing Committee.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 4 ayes, no noes:

Alexander Potter, February salary.....	$ 83.33
C. W. Sandford, Feb. salary and horse	200.00
J. J. Keating, February salary.....	120.00
E. S. Rankin, February salary and office	35.16
Alexander Potter, March salary.....	83.33
S. H. Rollinson, Jan., Feb., Mar. salary	62.50
C. W. Sandford, March salary and horse	200.00
J. J. Keating, March salary.....	120.00
E. S. Rankin, March salary and office..	35.16
Commonwealth Water Co., water for Grove St.	4.24
Weibezahl Print, printing minutes.....	11.89
Adrian Riker, drawing legislative bills..	50.00
N. Y. Telephone Co., telephone service..	29.75
C. W. Sandford, expense account.....	32.71
E. S. Rankin, expense account.....	13.15
E. S. Rankin, Secretary, petty cash....	79.50
	$1,160.72

On motion adjourned at 9:30 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 5, 1919.

ANNUAL MEETING.

The annual meeting of the Joint Meeting was held in the South Orange Village Hall, on the above date at 8 P. M. Those present were: Francis Speir, Chairman; H. J. Stanley, Irvington; Dr. Wellington Campbell, Millburn; H. R. Van Duyne, Newark; N. S. Bartow, South Orange; E. G. Pringle, Summit; B. P. Laidlaw, West Orange. The Engineer, Treasurer and Inspectors were also present together with Engineers Casey of Irvington and Winston of West Orange.

The minutes of the last meeting were approved as printed.

The Engineer presented the following report which on motion was received and ordered printed.

"June 5th, 1919.

"JOINT MEETING.

"Gentlemen:

"Your Engineer begs to report as follows:

"The phenomenal rain of the last two months has raised the water level in the ground and maintained the water in the ground at a higher elevation than for many years in the past, the result is that on certain sections the flow in the sewer has been very high. This is especially true in the section through South Orange Village. The condition herein referred to has been accentuated in this district due to the continued damming of the Rahway River by the South Orange Field Club, in order to secure a pond for skating purposes.

"While the sewer through South Orange has been running full or nearly so for some time, no complaint has come to the Inspector of any backing up in any of the cellars along the line of the Joint Trunk Sewer or tributary laterals. This condition of flooding emphasizes the importance of the passage of the bills to enable us if this should be long continued to provide means for relief without duplicating the sewer line.

"A condition has arisen on the second section of the sewer which I would like to have referred to counsel. At the point where our sewer crosses the Stiles property, a right-of-way has been given to a factory lying back of the Joint Trunk Sewer property in question.

"A water main and gas main are laid from Morris Avenue across the Joint Trunk Sewer. The depth of cover over our Joint Trunk Sewer is 3′ 9″ at the point. The contractor laying the water and gas mains had instructions to lay these pipes four feet deep. When our sewer was encountered he chipped into

the pipe in order to get his four foot depth, not knowing of the existence of our sewer. While he has done no damage whatever the question arises as to the rights of the Joint Trunk Sewer in the premises. It may be necessary to take up and relay our sewer or to increase the size of our pipes in which event these pipes crossing our right-of-way would form an obstruction. The question is shall the consent of the Joint Meeting be secured from persons crossing our right-of-way even though the contemplated structure does not at the present interfere with the sewer. While the size of the two pipes are relatively small it is conceivable that some day a much more serious interference to our Joint Trunk Sewer might be contemplated and it would be well to have the opinion of counsel as to the right of the Joint Meeting under such conditions.

"The Inspector reports a stoppage of the sewer on Brookdale Avenue, upon investigation it was found that this stoppage was caused by a full quart milk bottle, cotton waste, paper and piece of orange crate. The only possible way that these obstructions get into the sewer is through the removal of manhole covers and we hope that in time we will be able to eliminate this source of trouble by continuing the educational work begun among school children.

"The Richard guages have not yet been delivered. Material in Europe shipped in February from the same firm has taken three months for delivery through the customs and we may expect our meters at any time.

"Acting upon the instructions of the Joint Meeting we have ordered fifty additional hickory rods and 25 male couplings and we are obliged to order at least two manhole covers for crucial parts of the sewer system.

"Respectfully submitted,

"ALEXANDER POTTER."

On motion the matter of the rights of the Joint Meeting, with special reference to the crossing on the Stiles property, was referred to Counsel for an opinion.

Mr. Clover representing the Clinton Cemetery Association presented a map showing the improvements they wished to make and again requested permission to use the abandoned pipe belonging to the Joint Meeting. After the Secretary had read the opinion of Counsel, which was requested at the last meeting, it was moved that permission be refused. Carried.

The opinion of Counsel on this and the other matter referred to him follows:

"June 5, 1919.

"Mr. Edward S. Rankin,
"Secretary.

"Dear Sir:

"Complying with the resolution of April 17, 1919, I submit that there is serious question whether the Joint Meeting has power to allow the joint sewer or rights-of-way, or any part thereof, to be used for any purpose by others than the Joint Meeting. The title to the sewer, including the rights-of-way, is vested in the municipalities represented in the Joint Meeting and the authority of that body is created by statute and is strictly limited by the provisions of the statute. I fail to find any statutory authority for the Joint Meeting to allow the sewer or the rights-of-way, or any part thereof, to be used for any purpose by others than the Joint Meeting. It is my opinion that authority for such a grant can only be found in the municipalities themselves, even though the grant contemplates nothing further than temporary rights in a part of the joint property.

"As to the further question submitted of the right of access vested in the Joint Meeting in the right-of-way in West Orange, where the Venturi meter is located, I submit the following:

"All grants and easements for the construction and maintenance of the sewer through private properties contain a grant of,

" 'The right and easement to enter upon the premises hereinafter described and to build, construct, and maintain therein a trunk or outlet sewer, and to do and perform within the limits of such tracts of land all such acts as may be proper or necessary with the right of ingress to and egress from and passage over said tract of land at all times necessary or proper for the purposes aforesaid.'

"It appears that the right-of-way in which the Venturi Meter is located is cut off by fences so that access is rendered difficult, if not impossible, over the right-of-way itself. It further appears that garages have been built by the owners of lots subject to the easement of the sewer right-of-way in the immediate vicinity of the Venturi Meter, which prevent the use of the right-of-way for access to the Venturi Meter. The erection of these buildings in my opinion is in violation of the grant of easement to the municipalities represented in the Joint Meeting, and if the owners of the properties on which the obstructions have been erected decline to furnish an equally convenient access to the sewer, I have no doubt the Court of Chancery will afford a remedy upon proper application being made therefor.

"Very truly yours,

"Adrian Riker.
"Counsel of Joint Meeting.

On motion the opinion of Counsel was received and ordered printed in the minutes.

The report of the Treasurer was then read and on motion received and ordered printed in the minutes.

"To the Various Municipalities Comprising the Joint Sewer Meeting.

"Gentlemen:

"The Treasurer respectfully reports that on April 17th, 1919, the date of his last report, he had on deposit in the Orange National Bank, the sum of $545.41, with no warrants outstanding.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1,750, as shown on Schedule 1, hereunto annexed, so that the total amount of cash on hand was the sum of $2,295.41.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2, hereunto annexed, amounting to $1,098.22, so that the total amount of cash on hand at the date of this report is the sum of $1,197.19. Warrants No. 2,616 for $120 and No. 2,617 for $35.16 have not been presented for payment and are now outstanding, so that the Treasurer has on deposit with the Orange National Bank the sum of $1,352.35.

"All of which is respectfully submitted this 5th day of June, 1919.

"Simeon H. Rollinson,
"Treasurer."

Schedule 1.

1919.			
Apr.	17.	Balance	$545.41
"	21.	South Orange	250.00
"	29.	West Orange	250.00
"	30.	Millburn	250.00
May	7.	Summit	250.00
"	12.	Irvington	250.00
"	19.	Newark	500.00
			$2,295.41

Schedule 2.

1919.			
Apr.	19.	Commonwealth Water Company	$ 4.24
"	19.	N. Y. Telephone Co.	29.75
"	19.	Weibezahl Print	11.89
"	19.	Adrian Riker	50.00
"	19.	C. W. Sandford	32.71
"	19.	E. S. Rankin	13.15

"	19.	E. S. Rankin, Sect.	79.50
"	30.	Alexander Potter	83.33
"	30.	C. W. Sandford	200.00
"	30.	J. J. Keating	120.00
May	31.	Alexander Potter	83.33
"	31.	C. W. Sandford	200.00
"	31.	J. J. Keating	120.00
"	31.	E. S. Rankin	35.16
			$1,098.22
			$1,197.19

It was moved and seconded that the Secretary be directed to send to the property owners now occupying the right-of-way near the Venturi meter a copy of the opinion of Counsel, and request them to provide suitable access to the Venturi meter. Carried.

The Secretary reported that he had written letters to the School Superintendents as directed at the last meeting, and exhibited a copy of the poster which has been prepared for posting along the line of the sewer.

The Secretary presented the following resolution:

"RESOLVED: That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1,750, which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 5th day of June, 1919.

"This is the assessment for the 2nd quarter of 1919."

Carried 6 ayes, no noes.

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee. 6 ayes, no noes.

Alexander Potter, April salary.....$	83.33
C. W. Sandford, April salary and horse	200.00
J. J. Keating, April salary	120.00

E. S. Rankin, April salary and office	35.16
Alexander Potter, May salary	83.33
C. W. Sandford, May salary and horse	200.00
J. J. Keating, May salary	120.00
E. S. Rankin, May salary and office	35.16
Weibezahl Print, printing minutes	12.36
Baker Printing Co., printing posters	23.50
J. J. Keating, expense account	2.19
E. S. Rankin, Secretary, petty cash	15.00
Francis Speir, Executive Committee	15.00
Wellington Campbell, Executive Committee	10.00
H. J. Stanley, Executive Committee	15.00
H. R. Van Duyne, Executive Committee	15.00
N. S. Bartow, Executive Committee	15.00
E. G. Pringle, Executive Committee	15.00
B. P. Laidlaw, Executive Committee	15.00
	$1,030.03

Moved, That Lovejoy, Mather, Hough and Stagg be engaged to audit the books of the Secretary and Treasurer up to the year ending April 1st, 1919, at a cost not to exceed $50.00. Carried, 6 ayes, no noes.

The following officers for the ensuing year were then unanimously elected:

Chairman, Francis Speir.
Vice Chairman, Dr. Wellington Campbell.
Treasurer, Simeon H. Rollinson.
Secretary, Edward S. Rankin.
Engineer, Alexander Potter.
Counsel, Adrian Riker.
Chief Inspector, Corey W. Sandford.
Assistant Inspector, John J. Keating.

It was moved, seconded and carried that the annual inspection be held on Friday, June 27th, 1919.

Secretary.

Adjourned at 9.10 P. M.

EDWARD S. RANKIN,

Annual Inspection, June 27th, 1919.

The regular annual inspection of the Joint Trunk Sewer was held on Friday, June 27th, 1919, leaving the City Hall, Newark at 10 A. M.

Those present were Mr. Francis Speir, Chairman; Dr. Wellington Campbell, Milburn; Messrs. H. R. Van Duyne, Newark; E. G. Pringle, Summit and B. P. Laidlaw and Engineer Winston of West Orange. The inspectors and secretary were also present. Owing to Engineer Potter's absence in Cuba, his assistant, Mr. Neff, accompanied the party.

The route was direct to the outlet at Bayway and from there along the line of the sewer through Springfield and Milburn to the South Orange Lawn Tennis Club where the party were entertained by the Chairman.

Stops were made at the Roselle Park connection and the proposed connection on the Keenan and Stiles properties. At the latter point the gas main reported at the last meeting crosses the sewer. Stops were also made at the Doll property and on Milburn Avenue to view obstruction on the right-of-way, and at South Orange Avenue where it is proposed to build a new manhole. During the stay at the Club House the following opinion from Counsel was read by the Secretary:

"June 20, 1919.

"Mr. Edward S. Rankin, Secretary,
"City Hall,
"Newark, N. J.

"Dear Sir:

"I have yours of June 18th requesting an opinion for the Joint Meeting as to its right to regulate or prohibit the use of the sewer right of way for other purposes, such as in particular the laying of a gas pipe across it, so that the bottom of the pipe rests on the top of the sewer.

"Examination of the form of deed obtained for the rights of way discloses that it is only an easement to construct, operate, and maintain the sewer with right of access over the right-of-way for inspection purposes. All other rights, therefore, were reserved by the owners. I have no question that the rights reserved by the owners include the granting of other rights of way not inconsistent with the grant to the municipalities for the joint sewer. If the gas pipe in question does not interfere with the operation or the security of the sewer as it now exists, I

can find no ground upon which to question the right of the owners of the land to grant the easement for its construction and operation. This conclusion will not be modified even if it be assumed that the municipalities represented by the Joint Meeting have not exhausted construction rights and finally determined the size and character of the sewer to be laid in the rights of way. If the power to enlarge the sewer belongs to the municipalities in question, until the power is sought to be exercised I do not think that the Joint Meeting has any right to regulate or prohibit the use of the land within the right-of-way for purposes not inconsistent with the existing sewer structure.

"I do not feel it necessary to express an opinion upon the question of whether or not the construction rights are exhausted and whether or not the municipalities, in case they conclude to enlarge the sewer as built, must obtain additional grants from the owners of the fee.

"Very truly yours,

ADRIAN RIKER,
Counsel."

After lunch the Venturi meter was visited and the difficulty of access thereto owing to garages being built over the sewer and the right-of-way being fenced in was explained by the inspector. A heavy rain having set in the party broke up at this point about 3 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of September 30, 1919.

A regular meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Those present were Francis Speir, Chairman; Dr. Campbell, Millburn; H. R. Van Duyne, Newark; E. G. Pringle, Summit; N. S. Bartow, South Orange and B. P. Laidlaw, West Orange. Also present the Engineer, Treasurer, Inspectors and Engineer Casey of Irvington.

The minutes of the previous meeting and of the Annual Inspection were approved as printed.

Engineer Potter presented his regular report which on motion was accepted.

"September 30th, 1919.

"Joint Meeting,

"Gentlemen:

"The six Richard meter guages ordered in October 1917 have at last been received. At the time that they were ordered, your engineer stated, that the price of the two meters then installed was $67.00 each and that the estimate of the manufacturer's agent for the six additional meters was $75.00 each.

"In July of this year I was advised that there will be an increase of fifty per cent in the price previously quoted but I am pleased to state that the bill received charged us with $75.00 a piece for the meters.

"Mr. Sandford, Chief Inspector, advises me that five additional meters should be ordered at once as the Dibble recording meters are absolutely worthless. I would like authority to order these meters and I trust that we will have a speedier delivery on these additional meters than on the 6 which have been received.

"The Chief Inspector reports on Vermont Avenue between Plymouth Street and Laurel Place the twelve-inch trunk sewer seems to be sagged for about fifty feet, perhaps as much as six inches. A storm sewer was built by the City of Newark four years ago paralleling a sanitary sewer and the probable reason for the sagging of the sanitary sewer is the settlement due to the excavations made for Newark's storm sewers. As this street has a permanent pavement, the Inspector hesitated to destroy the pavement over the sewer but as the sewer requires cleaning very frequently to keep it alive it may be necessary to dig down to the sewer. Sometimes it is necessary to clean this sewer two weeks

in succession. To dig down and replace this section would involve an expenditure of probably $400.00 or $500.00, authority therefore should be given to proceed with this work if in the judgment of your Engineer it becomes necessary to take up and re-lay this section of the sewer.

"Dunnell Road in South Orange Township has recently been paved requiring the lowering of the manhole which work was performed by the Inspector and charged in his expense account.

"For the last three months odors have been noticeable in the Joint Trunk Sewer extending as far as the first section. The odors were of a different nature than anything previously noticed and in attempting to trace this odor to its origin the Inspector believed that it came from wastes of the Secaw Chemical Plant in Irvington.

"The wastes from this plant are discharged into a gutter in Chancellor Avenue and from there finds its way into an abandoned manhole on Chancellor Avenue. We have no record of this abandoned manhole as a part of Irvington's sewers. It does not seem to be connected with sewers leading into the Joint Trunk Sewer but yellow ochre placed in the abandoned manhole shows up in the sanitary manhole 150′ below.

"The length of time taken to pass from the abandoned manhole to the sanitary sewer is ten minutes which would indicate a poor or indirect connection with the sanitary sewer. I would recommend that this matter be referred to the Irvington authorities for investigation and report as the trouble seems to be wholly off the line of the Joint Trunk Sewer.

"The gases given off however follow down the Joint Trunk Sewer and are annoying to the Inspectors in the prosecution of their work as well as to passers-by. The most pronounced odors occurring before the Joint Trunk Sewer is reached.

"The Elmora Construction Company have made a connection with the Joint Trunk Sewer near the upper end of Section 1, through a special manhole designed by your Engineer, at which point a new street called Raymond Street is being sewered and twenty-seven houses will be constructed on this new street, the flow from which will be charged against Union Township's quota in the Joint Trunk Sewer. They have paid to the Joint Meeting ten dollars to make this connection.

"I recommend that Union Township be notified that the houses connected with this sewer will be charged against their quota in the Joint Trunk Sewer. Union Township officials have given their consent to make this connection.

"In the territory served by the Joint Trunk Sewer, building operations are continuing, substantially increasing the flow to the Joint Trunk Sewer, especially at certain points so that the

time is not far distant when something must be done to relieve the sewer as outlined in my report when the Joint Trunk Sewer was first contemplated.

"Respectfully submitted,

"ALEXANDER POTTER."

It was moved and seconded that the Engineer be authorized to purchase five additional Richard guages at $75.00 each to replace those which have been worn out. Carried 5 ayes, no noes.

On motion the Engineer was authorized, if found necessary, to take up with Newark the opening of Vermont Avenue in order to repair the sewer if the same is found to be broken.

The matter of the odors on Sections 3 and 5, which appear to come from the Secaw Chemical Company on Chancellor Avenue was referred to the Irvington Board of Health.

It was moved that the Secretary notify Union Township that the flow from the 27 houses which are to be connected with the Joint Sewer with their consent will be charged against the quota belonging to Union Township and requesting that such consent be filed with the Joint Meeting. Carried

Moved by Mr. Pringle that hereafter in the case of all municipalities having rights in the Joint Sewer, but not members of the Jont Body, no connection shall be made unless and until the municipality in whose territory the district to be sewered is situated, shall file with the Joint Meeting their official consent to such connection and to the charging of such use against said municipality. Carried.

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising the
Joint Sewer Meeting.

"Gentlemen:

"The Treasurer respectfully reports that on June 5th, 1919, the date of his last report, he had on deposit in the Orange National Bank the sum of $1,352.35, with warrants No. 2616 for $120. and No. 2617 for $35.16 outstanding, so that the total amount of cash on hand was the sum of $1,197.19.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2, sum of $2,030. and has been allowed interest amounting to $13.29 as shown on Schedule I hereunto annexed, so that the total amout of cash on hand was the sum of $3,240.48.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the

hereunto annexed, amounting to $2,032.01 and warrants above referred to having been paid, the total amount of cash on hand at the date of this report is the sum of $1,208.47. Warrants Nos. 2642 to 2646, inclusive, aggregating $500.99 are still outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $1,709.46.

"All of which is respectfully submitted this 30th day of September, 1919.

"SIMEON H. ROLLINSON
"Treasurer."

SCHEDULE 1.

1919			
June	5	Balance	$1,197.19
"	16	South Orange	250.00
"	17	Newark	500.00
"	18	Summit	250.00
"	20	West Orange	250.00
"	23	Millburn	250.00
"	28	David J. McBride (tap fee)	10.00
July	7	Edward S. Rankin, Sec'y (tap fee)	10.00
Sept.	16	Irvington	250.00
"	16	Irvington	250.00
"	27	Ernest L. Meyer, Inc. (tap fee)	10.00
June	30	Interest	3.08
Sept.	30	Interest	10.21
			$3,240.48

SCHEDULE 2.

1919			
June	6	Weibezahl Print	$ 12.36
"	6	Baker Printing Co.	23.50
"	6	J. J. Keating	2.19
"	6	E. S. Rankin, Sec'y	15.00
"	6	Francis Speir	15.00
"	6	Wellington Campbell	10.00
"	6	H. J. Stanley	15.00
"	6	H. R. Van Duyne	15.00
"	6	N. S. Bartow	15.00
"	6	E. G. Pringle	15.00
"	6	B. P. Laidlaw	15.00
"	30	Alexander Potter	83.33
"	30	S. H. Rollinson	62.50
"	30	C. W. Sandford	200.00
"	30	J. J. Keating	120.00
"	30	E. S. Rankin	35.16
July	31	Alexander Potter	83.33
"	31	C. W. Sandford	200.00
"	31	J. J. Keating	120.00
"	31	E. S. Rankin	35.16

Aug. 30	Alexander Potter	83.33	
" 30	C. W. Sandford	200.00	
" 30	J. J. Keating	120.00	
" 30	E. S. Rankin	35.16	
Sept. 30	Alexander Potter	83.33	
" 30	S. H. Rollinson	62.50	
" 30	C. W. Sandford	200.00	
" 30	J. J. Keating	120.00	
" 30	E. S. Rankin	35.16	
			2,032.01
	Cash on hand		$1,208.47

The Secretary then read the report of Lovejoy, Mather, Hough and Stagg, who were engaged to audit the books.

LOVEJOY, MATHER, HOUGH & STAGG

PUBLIC ACCOUNTANTS AND AUDITORS

Kinney Building, Newark, N. J.

"June 24th, 1919.

"Edward S. Rankin, Esq.,
"Secretary, Joint Meeting,
"City Hall, Newark, New Jersey.

"Dear Sir:

"As instructed we have made an audit of the books and accounts of the Secretary and Treasurer of the Joint Meeting from April 1, 1918 to March 31, 1919, inclusive, and find the same to be correct.

"The transactions which took place over this period may be summarized as follows:

Cash in Bank, March 31, 1918		$2,229.73
Assessments made and collected during period	$5,250.00	
Interest	17.47	
Sale of Manhole Covers	9.00	
Broken Manhole Cover	4.80	5,281.27
		$7,511.00
Disbursements:		
Warrants 2501 to 2602, inclusive		6,965.59
Balance at close of business March 31, 1919 on deposit in the Orange National Bank		$ 545.41

"We have verified the assessments and other income with the minutes of the Committee and traced same to the bank account.

"Warrants 2501 to 2602 inclusive, were inspected for all disbursements made and were found to be in order.

"The trial balance of the books as at the close of business March 31, 1919 is as follows:

Cash	$537.01	
Petty Cash	100.00	
Maintenance		$637.01
	$637.01	$637.01

"You will note that the cash account on Secretary's books is $8.40 less than on the Treasurer's books, being interest credited by bank in March, but not taken up on Secretary's books till April.

"We verified the Petty Cash on hand as at the close of business March 31, 1919 and reconciled the cash in bank standing to the credit of S. H. Rollinson, Treasurer, with a certificate from the depositary.

"Yours very truly,
"Lovejoy, Mather, Hough & Stagg,
"By L. G. Ball."

On motion the report was accepted.

The following resolution was presented and on motion carried, 4 ayes, no noes.

"Resolved: That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1,750. which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"Resolved: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 30th day of September, 1919."

This assessment is for the third quarter of 1919.

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee, 4 ayes, no noes.

Alex. Potter, June salary	$ 83.33
C. W. Sandford, June salary and horse	200.00
S. H. Rollinson, April, May, June salary	62.50
J. J. Keating, June salary	120.00

E. S. Rankin, June salary and office	35.16
Alexander Potter, July salary	83.33
C. W. Sandford, July salary and horse	200.00
J. J. Keating, July salary	120.00
E. S. Rankin, July salary and office	35.16
Alexander Potter, August salary	83.33
C. W. Sandford, August salary and horse ..	200.00
J. J. Keating, August salary	120.00
E. S. Rankin, August salary and office	35.16
Alexander Potter, September salary	83.33
S. H. Rollinson, July, Aug. Sept. salary ...	62.50
C. W. Sandford, September salary and horse	200.00
J. J. Keating, September salary	120.00
E. S. Rankin, September salary and office ..	35.16
Adrian Riker, Retainer	250.00
N. Y. Telephone Co., Telephone service ..	18.55
Weibezahl Print, Printing Minutes	8.04
C. Wolber Co., Printing voucher blanks	13.25
E. H. DuVivier, Recorders and sheets	470.00
American Surety Co., Premium on Treasurer's Bond	20.00
Lovejoy, Mather, Hough & Stagg, Audit of Books	50.00
C. W. Sandford, Expense account	10.07
J. J. Keating, Expense account	5.95
E. S. Rankin, Expense account	1.07
E. S. Rankin, Secretary, Petty Cash	75.00
	$2,800.89

On motion the meeting adjourned at 9 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of December 4th, 1919.

A regular meeting of the Joint Meeting was held in the South Orange Village Hall on the above date at 8 P. M.

Those present were Mr. Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; and Messrs. H. R. Van Duyne, Newark; E. G. Pringle, Summit; H. J. Stanley, Irvington and B. P. Laidlaw, West Orange. The Engineer, Treasurer and Inspectors were also present.

The minutes of the last meeting were approved as printed.

Engineer Potter read his regular report which on motion was received and ordered printed.

December 4th, 1919.

"Joint Meeting,
"Gentlemen:

"I beg to report concerning the Joint Trunk Sewer as follows:

"The illicit connection to the sewer on Chancellor Avenue which permitted large volumes of storm water to enter into the local sewer draining into the Joint Trunk Sewer has been corrected by the Irvington authorities.

"The six new Richard guages have been received and five have been set and are functioning perfectly.

"The record book of guage readings has been exhausted and your Engineer is ordering a new book slightly modified as to form for the period beginning January, 1920.

"During the last month measurements have been taken throughout Union Township for the purpose of determining whether or not it was exceeding its capacity in the sewer. While we have not yet determined the exact volume of flow, enough information has been collected to show that they are still within the limits of minimum flow.

"The Inspectors report that the sewer throughout its entire length is in good condition. We have had an exceptionally rainy season but in no case has there been an unusual flooding of the sewer.

"A year ago one thousand dollars was set aside for extraordinary expenses in connection with the Joint Trunk Sewer, but because of the scarcity of labor and the high cost of material we have deferred all work not absolutely necessary and thus been able to get along with the expenditure of a small part of this extraordinary appropriation, the greatest item of expenditure being for the Richard guages and the additional Richard guages

can be taken care of within the appropriation, so that for the coming year if an additional amount of Five hundred dollars for extraordinary expenses is appropriated it should prove sufficient. The Inspectors will require about ten new manhole covers for replacements along Millburn and Lyons Avenues.

"We have on hand twelve old Dibble guages and your Engineer would like to have the authority to dispose of these old guages to the best advantage of the Joint Trunk Sewer as they are without value to the Joint Meeting. No effort has been made to secure a purchaser for these guages as yet, but if a purchaser is found he will probably require possession immediately, hence the request for authorization to dispose of the same.

"Your Engineer has continued to study the question of a proper solution of additional capacity against the time when this will be required on account of the abnormal growth of many of the towns using the sewer, but on account of the high cost of labor and material it is inadvisable even to suggest the necessity of expending any money in this way at this time.

"Respectfully submitted,
"ALEXANDER POTTER."

On motion the Engineer was authorized to dispose of the old Dibble guages to the best advantage of the Joint Meeting.

The report of the Treasurer was then read and on motion received and ordered printed in the minutes.

"To the Various Municipalities Comprising the Joint Sewer Meeting.

"Gentlemen:

"The Treasurer respectfully reports that on September 30th, 1919, the date of his last report, he had on deposit in the Orange National Bank, the sum of $1,709.46 with warrants 2642 to 2646 inclusive, aggregating $500.99 outstanding, so that the total amount of cash on hand was the sum of $1,208.47.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1,500., as shown on Schedule I, hereunto annexed, so that the total amount of cash on hand was the sum of $2,708.47.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule 2, hereunto annexed amounting to $1,798.94, so that the total amount of cash on hand at the date of this report is the sum of $909.53. Warrant 2665 for $35.16 is now outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $944.69.

"All of which is respectfully submitted this 4th day of December, 1919.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1919				
Sept.	30	Balance	$1,208.47	
Oct.	6	Millburn	250.00	
"	8	Summit	250.00	
"	9	West Orange	250.00	
"	17	South Orange	250.00	
"	17	Newark	500.00	
				$2,708.47

SCHEDULE 2.

1919				
Oct.	1	Adrian Riker	$ 250.00	
"	1	N. Y. Telephone Co.	18.55	
"	1	Weibezahl Print	8.04	
"	1	C. Wolber Co.	13.25	
"	1	E. H. DuVivier	470.00	
"	1	Am. Surety Co.	20.00	
"	1	Lovejoy, Mather, Hough & Stagg	50.00	
"	1	C. W. Sandford	10.07	
"	1	J. J. Keating	5.98	
"	1	E. S. Rankin	1.07	
"	1	E. S. Rankin, Sec'y	75.00	
"	31	Alexander Potter	83.33	
"	31	C. W. Sandford	200.00	
"	31	J. J. Keating	120.00	
"	31	E. S. Rankin	35.16	
Nov.	29	Alexander Potter	83.33	
"	29	C. W. Sandford	200.00	
"	29	J. J. Keating	120.00	
"	29	E. S. Rankin	35.16	
				1,798.94
		Cash on hand		$ 909.53

The following resolution was presented by Dr. Campbell:

"WHEREAS, in accordance with Chapter 175 of the State Laws of 1919, the Joint Meeting shall before the first day of December in each year make an estimate of and determine the cost and expense of maintaining and operating such public improvement for the year beginning on the first day of January then next, and shall cause the same to be certified by the Secretary of the Joint Meeting to each of the municipalities contracting for said improvements;

"THEREFORE BE IT RESOLVED, That the Joint Meeting hereby estimates and determines the cost and expense of maintaining and operating the Joint Outlet or Trunk Sewer for the year beginning January 1st, 1920, to be the sum of $7,000 and the Secretary is hereby directed to mail a copy of this resolution to each of the municipalities represented in the Joint Meeting."

Carried.

The Secretary read a communication from Union Township regarding connections with the Joint Sewer. On motion the letter was ordered filed.

The question was raised as to whether sewage coming from Elizabeth but entering the Joint Sewer through a Union Township connection should be charged against the quota of Elizabeth or Union. On motion the Engineer was directed to take up the matter with Mr. Riker.

Moved that the Secretary be directed to have the bills to be introduced at the coming session of the Legislature sent to him for examination. Carried: 5 ayes, no noes.

The Chair appointed Messrs. Stanley and Van Duyne as the Legislative Committee.

The following resolution was read and on motion carried. 5 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1,750 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the fourth day of December, 1919.

"This is the assessment for the 4th quarter of 1919."

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee. 5 ayes, no noes.

Alexander Potter, October salary	$ 83.33
C. W. Sandford, October salary and horse ..	200.00
J. J. Keating, October salary	120.00
E. S. Rankin, October salary and office	35.16
Alexander Potter, November salary	83.33
C. W. Sandford, November salary and horse	200.00
J. J. Keating, November salary	120.00
E. S. Rankin, November salary and office ..	35.16
Francis Speir, Executive Committee	15.00
E. G. Pringle, Executive Committee	15.00
H. R. Van Duyne, Executive Committee ..	15.00
B. P. Laidlaw, Executive Committee	15.00
W. Campbell, Executive Committee	15.00
H. J. Stanley, Executive Committee	5.00
N. S. Bartow, Executive Committee	5.00
Harold L. Bond, Sewer rods	46.25
Weibezahl Print, Printing Minutes	7.26
N. Y. Telephone Co., Telephone Service ..	19.65
B. E. Larney, Services for 1919	10.00
E. S. Rankin, Secretary, Petty Cash	9.00
	$1,054.14

On motion the meeting adjourned at 9 P. M.

E. S. Rankin,
Secretary.

Joint Meeting of April 8th, 1920.

A regular meeting of the Joint Meeting was held on the above date at the South Orange Village Hall. Owing to the great storm of February 5th, the meeting scheduled for that evening was abandoned.

Those present were the Chairman, Francis Speir; Dr. Wellington Campbell, Millburn; Messrs. B. P. Laidlaw, West Orange; N. S. Bartow, South Orange; H. J. Stanley, Irvington; and E. G. Pringle, Summit; the Engineer, Treasurer and Inspectors. There were also present at the meeting Engineer Casey of Irvington, Engineer Redfern and Superintendent of Sewers Ash of South Orange, Engineer Winston of West Orange and Engineer Luster and Chairman of the Sewer Committee Truesdell of Hillside.

The minutes of the meeting of December 4th, were approved as printed.

Mr. Potter read his usual report which on motion was accepted and ordered printed.

"April 8th, 1920.

"The Joint Meeting:

"South Orange, N. J.:

"Gentlemen:—

"The principle topic for discussion at this time is the flooded condition of the sewer during portions of the month of March. The severe conditions caused by the heavy snowfall of the past winter and the juxta-position of a heavy rain following a period of thaw contributed to this trouble.

"The effect of this surcharging of the sewage was more keenly felt on the South Orange-West Orange line and is attributable in most parts to the fact that there is discharged into the West Orange line the entire flow from the valley section of Orange, a district which has always been notorious as to the amount of flow in the sewers during all wet periods.

"As pointed out by your Engineer on many occasions, the agreement reached between the Town of West Orange and the City of Orange on the interchange of capacities was woefully unjust to West Orange because in periods of excessive flow the amount contributed by Orange to the West Orange sewers was three or four times as great as the amount contributed to the Orange sewers by the Town of West Orange.

"If West Orange was the only sufferer it would not be a matter for the consideration of the Joint Meeting but when West Orange discharges into the Trunk Sewer through the Village of South Orange nearly twice its allotted capacity there is no further room in the Trunk Sewer through South Orange for the ordinary and reasonable flow from the Village of South Orange.

"Your Engineer has had conferences with the Town Engineer of West Orange and the Village Engineer of South Orange and we are considering the ways and means for the prompt relief of the situation which we believe will prove effective so that a recurrence of the conditions that has occurred during the past month is not likely.

"While the inconvenience due to the surcharging of the sewer was more seriously felt on the West Orange line, the same condition prevailed more or less throughout the entire system and in fact in all sewers in this territory. An examination of the records of flow in the sewers indicate that under normal conditions the sewer has ample capacity to meet all demands made upon it. It is only during the period of excessive high water that trouble is experienced.

"Take for instance the records of the flow at the West Orange-South Orange line. These records indicate that under normal conditions the minimum flow is 1,500,000 gallons per day, and a maximum flow of 2,500,000 gallons per day, almost uniformly, week after week, but during the week ending March 10th, the flow was at 1,500,000 gallons per day at the beginning of the storm but rose to nearly 5,000,000 gallons per day and remained at the 5,000,000 gallon rate for a period of weeks. This large volume as before stated was due to the large volume of flow coming directly from the Orange sewers.

"The Inspectors have called my attention to the difficulty of securing adequate labor for emergency cases due to the fact that they are limited in such payment to three dollars a day, whereas other cities are paying four dollars per day. On top of this, the Inspector is finding difficulty in securing any kind of labor for emergency work.

"A unique proposition has arisen in connection with the damming of the Rahway River by a fallen tree, outside the right-of-way of the Joint Trunk Sewer. The owner has promised to remove it but has failed to do so. As the damming of the water at this point in case of a storm is likely to injure our sewer I have issued instructions to the Inspector that if this is not removed forthwith to hire men and remove it at the expense of the Joint Meeting.

"The Assistant Inspector, Mr. Keating, in the performance of his duties, smashed his finger. This accident has not occasioned the loss of any time, but has incapacitated the Assistant Inspector from doing certain classes of work. The recommenda-

tion is made that the medical expenses in connection with this accident be paid by the Joint Meeting. So far it amounts to nine dollars.

"A new record book for charts was purchased by your Engineer at a cost of Sixteen Dollars for use by the Inspector and was delivered to him January first.

"Respectfully submitted,

"ALEXANDER POTTER."

A long discussion followed on the conditions along the South Orange-West Orange Line; Mr. Bartow spoke of the seriousness of the situation and submitted correspondence from numerous property owners along the line of the sewer. He stated that sewage had backed up into the cellars of eight houses, and also had flooded the surface of the street. Mr. Potter stated that plans were being prepared, the nature of which he preferred not to discuss at this time, but which he was satisfied would prevent the recurrence of the conditions referred to. Engineer Redfern stated that he, Mr. Potter and Mr. Winston had been in conference on the matter. He believed the suggested plans would be a relief but not a cure. He felt that the sewer should be enlarged so as to afford a permanent rather than a temporary relief and attributed the trouble to West Orange. Mr. Smith, a property owner in West Orange spoke of the intolerable conditions at his house and asked that something be done. He was informed that his property was outside of the jurisdiction of the Joint Meeting. Engineer Winston stated that the trouble was caused by the heavy flow from Orange and also favored an enlargement of the sewer. After some further discussion Mr. Bartow moved that the Engineer be requested to prepare a preliminary report looking to the enlargement of the sewer. Carried.

It was moved and seconded and carried, that the several municipalities comprising the Joint Meeting be requested to furnish laborers from their sewer departments in case of emergency for work on the Joint Sewer, such labor to be paid for by the Joint Meeting at the same rate paid by the municipality from which they were furnished.

Moved that the recommendation that the doctor's bill for Mr. Keating's injury be paid by the Joint Meeting, be concurred in. Carried.

Moved that the tree which fell across the Rahway River be removed at once. Carried.

Mr. Speir stated that the project for the Rahway Valley Sewer was being considered and that he had been approached as to the possibility of any of the towns comprising the Joint Meeting taking capacity in the proposed new sewer. He suggested that this question be considered by the members of the Joint Meeting and the Engineer.

On motion Mr. Potter was requested to take this matter into consideration in making his report on providing additional capacity in the Joint Sewer.

Mr. Luster appeared for Hillside Township, stating that he was preparing plans for a sewer system, and asking if capacity could be obtained in the Joint Sewer for that Township and at what cost. He was advised to present his request by letter to the Secretary and it would be considered at the next meeting.

The Secretary read a communication from the South Orange Board of Health which on motion was received and ordered printed.

"April 3rd, 1920.

"To The Honorable Board of Trustees of the Village of South Orange:

"Gentlemen:—

"At a special meeting of this board held April 2nd, 1920, the following motion was passed:

"Moved, seconded and carried—That a communication be forwarded to the Board of Trustees, and to the 'Joint Meeting' requesting attention to the fact that with very heavy rainstorms, sewage ladened water flows from the manholes of the Joint Sewer upon the surface of Meadowbrook Lane and adjacent property, and also backs up through the cellar water closets and laundry trays into the cellars of houses located on the streets immediately adjacent to the east branch of the Rahway River (extract from minutes of meeting).

"Very respectfully,

"A. C. BENEDICT,
"Sec. pro. tem."

The report of the Treasurer was then read and on motion received and ordered printed in the minutes.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on the 4th day of December, 1919, the date of his last report, he had on deposit in

the Orange National Bank the sum of $944.69, with Warrant 2665. for $35.16 outstanding, so that the total amount of cash on hand at the date of this report was the sum of $909.53.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1,750. and has been allowed interest amounting to $14.68, so that the total amount of cash on hand was the sum of $2,674.21, as shown on Schedule I hereunto annexed.

"The Treasurer further reports that since the date of his last report, he has executed warrants, as shown on Schedule 2. hereunto annexed, amounting to $2,056.24, so that the total amount of cash on hand on the date of this report is the sum of $617.97. Warrant 2665. above referred to has been presented for payment, but Warrant 2692. amounting to $62.50 is outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $680.47.

"All of which is respectfully submitted this 8th day of April, 1920.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1920.			
Feb. 5.	Balance	$ 909.53	
1919.			
Dec. 8.	Irvington	250.00	
" 15.	South Orange	250.00	
" 18.	Summit	250.00	
" 18.	West Orange	250.00	
" 20.	Newark	500.00	
" 29.	Millburn	250.00	
" 30.	Interest	5.90	
1920.			
Mar. 31.	Interest	8.78	
			$2,674.21

SCHEDULE 2.

1919.		
Dec. 5.	Francis Speir	$ 15.00
" 5.	Wellington Campbell	15.00
" 5.	B. P. Laidlaw	15.00
" 5.	E. G. Pringle	15.00
" 5.	H. R. VanDuyne	15.00
" 5.	N. S. Bartow	5.00
" 5.	H. J. Stanley	5.00
" 5.	Harold L. Bond Co.	46.25
" 5.	Weibezahl Print	7.26
" 5.	N. Y. Telephone Co.	19.65

"	5.	B. E. Larney	10.00
"	5.	E. S. Rankin, Sec'y	9.00
"	30.	Alexander Potter	83.37
"	30.	S. H. Rollinson	62.50
"	30.	C. W. Sandford	200.00
"	30.	J. J. Keating	120.00
"	30.	E. S. Rankin	35.24
1920.			
Jan.	31.	Alexander Potter	83.33
"	31.	C. W. Sandford	200.00
"	31.	J. J. Keating	120.00
"	31.	E. S. Rankin	35.16
Feb.	28.	Alexander Potter	83.33
"	28.	C. W. Sandford	200.00
"	28.	J. J. Keating	120.00
"	28.	E. S. Rankin	35.16
Mar.	30.	Alexander Potter	83.33
"	30.	S. H. Rollinson	62.50
"	30.	C. W. Sandford	200.00
"	30.	J. J. Keating	120.00
"	30.	E. S. Rankin	35.16
			$2,056.24

Cash on hand $617.97

The Secretary read a report showing his trial balance for the year ending December 31, 1919, together with a table of receipts and expenditures.

"SECRETARY'S TRIAL BALANCE.

"End of Fiscal Year, Dec. 31, 1920.

Cash	$1,981.26	
Maintenance		$2,081.26
Petty Cash	100.00	
	$2,081.26	$2,081.26

Distribution of Receipts.

April 1, 1919 to Dec. 31, 1919 (end of new fiscal year)

Balance April 1, 1919, Treasurer	$ 537.01
Interest	21.69
Assessments	7,000.00
Tap fees	30.00
	$7,588.70

Disbursements.

April 1, 1919 to Dec. 31, 1919 (end of new fiscal year)

Salary of Engineer	$ 750.01

Salary of Secretary	316.52
Salary of Treasurer	187.50
Salary of Chief Inspector	1,800.00
Salary of Assistant Inspector	1,080.00
Services and retainer of Counsel	300.00
Telephone Service	67.95
Expense Accounts	65.17
Labor	178.50
Printing Current Minutes and Stationery	76.30
Audit of Books	50.00
Executive Committee Salaries	185.00
Charts	470.00
Miscellaneous	80.49
Cash Balance December 31, 1919	1,981.26
	$7,588.70

On motion the report was received and ordered printed.

The following resolution was then read and on motion Carried. 4 ayes, no noes.

"*Resolved,* That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1,750 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"*Resolved,* That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 8th day of April 1920.

"This is the assessment for the 1st quarter of 1920."

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee. 4 ayes, no noes.

Alexander Potter, December salary	$ 83.37
S. H. Rollinson, Oct., Nov., Dec. salary	62.50
C. W. Sandford, Dec. salary and horse	200.00
J. J. Keating, December salary	120.00
E. S. Rankin, Dec. salary and office	35.24
Alexander Potter, January salary	83.33
C. W. Sandford, January salary and horse	200.00
J. J. Keating, January salary	120.00
E. S. Rankin, January salary and office	35.16

Alexander Potter, February salary	83.33
C. W. Sandford, February salary and horse	200.00
J. J. Keating, February salary	120.00
E. S. Rankin, February salary and office..	35.16
Alexander Potter, March salary	83.33
S. H. Rollinson, Jan., Feb., March salary.	62.50
C. W. Sandford, March salary and horse ..	200.00
J. J. Keating, March salary	120.00
E. S. Rankin, March salary and office	35.16
E. S. Rankin, Secretary, Petty Cash	3.00
C. W. Sandford, Expense Account	6.80
J. J. Keating, Expense Account	2.92
E. S. Rankin, Expense Account	11.60
N. Y. Tel. Co., Service to March 31, 1920..	19.10
N. Y. Tel. Co., Service to June 30, 1920..	28.45
Flockhart Foundry Co., Manhole covers ..	60.00
Weibezahl Print, Printing Minutes	5.25
Commerce Printing Co., Printing Sewer Record Book	16.00

On motion meeting adjourned at 10 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 17, 1920.

ANNUAL MEETING.

The Annual Meeting of the Joint Meeting was held on Thursday, June 17th, 1920, at the South Orange Village Hall at 8 P. M.

Present: Francis Speir, Chairman; H. J. Stanley, Irvington; Wellington Campbell, Millburn; H. R. Van Duyne, Newark; E. G. Pringle, Summit; B. P. Laidlaw, West Orange and D. W. Richards, South Orange, together with the Engineer, Treasurer and Inspectors. Engineers Casey of Irvington and Winston of West Orange were also present.

The minutes of the last meeting were approved as printed.

Engineer Potter presented the following report which on motion was received and ordered printed in the minutes.

"June 17th, 1920.

"THE JOINT MEETING,
"South Orange, N. J.

Gentlemen:—

"I submit herewith a record of flow for the year 1919. This record merits the careful scrutiny and examination of the municipalities forming the Joint Meeting. It shows among other things that the allotted capacity of two of the municipalities was exceeded practically last year all of the time.

"Since our last meeting, steps have been taken to reduce the normal flow from West Orange so that at present the average daily flow from West Orange does not exceed 2,800,000 gallons as opposed to 3,625,000 gallons, the average for last year.

"An examination of these flows emphasizes the importance of the action of the Joint Meeting at the last meeting in authorizing an investigation looking to the making of provision for additional capacity in the Joint Trunk Sewer and of providing ample means for caring for the abnormal growth which has taken place in such cities as Irvington, West Orange, South Orange Township and other portions of the territory served by the Joint Trunk Sewer.

"On the matter of ways and means for most economically providing for the increased needs of the municipalities, your Engineer reports progress.

"In the matter of providing sewerage facilities for the Borough of Hillside, which came before the Joint Meeting in a formal application from the Borough Engineer, a recommendation upon this matter will also have to be held in abeyance until a definite recommendation is made for provision for the increased capacity in the Joint Trunk Sewer.

"Your attention was called in my last report to a connection made for storm water in one of the laterals in the Vailsburg section of Newark which in times of storm admits improperly into the Joint Trunk Sewer as much as one-half million gallons per day.

"In compliance with the request of the Inspector that this connection made under the direction of the Board of Health be cut off, this opening has been protected against the admission into the sewer of sticks, stones and other large objects; but so far as eliminating infiltration or the rain-water of the district, the conditions remain the same.

"Has the Inspector of the Joint Trunk Sewer a right to enter upon private property connected with the lateral sewers for the purpose of cutting off flows which under no condition should be permitted to enter the Joint Trunk Sewer?

"The connection in question is located at 50 Boylan Street, in the City of Newark, about nine hundred feet away from the Joint Trunk Sewer.

"Your Engineer has received a request from Silas H. Thorpe for permission to secure a sanitary sewer outlet for a tract of land bounded by Morris Avenue, Colonial Avenue and the Morris County Traction Company, containing twenty-five building lots. He has agreed to build at his own expense a main sewer to connect his property to the Joint Trunk Sewer. He has applied to Union Township for the right to connect to the Joint Trunk Sewer. They have refused to give him authority to utilize their capacity in the Joint Trunk Sewer excepting under the terms that he build all of the sewers including the outlet sewer at his own cost and expense and in addition to pay to the Township the sum of $25.00 for each lot so connected. He desires to know whether or not the Joint Meeting is at liberty to deal directly with him in granting him permission to connect this property with the Joint Trunk Sewer on the terms which will be mutually agreeable.

"This is the first request of this nature that has been made to the Joint Meeting and I would recommend that the matter be referred to Counsel for his opinion.

"In the matter of the excess flow from West Orange which interferes with the ability of South Orange to enjoy the free use

of their own capacity in the Joint Trunk Sewer. I have talked this matter over the telephone with Counsel, Mr. Riker and I am of the opinion that the question should be referred to him officially. He unofficially informed me that if there is any practical way in which West Orange can be made to keep within its contract requirements, it should be ordered done. The only practical way in which this can be done is by re-establishing the conditions existing before the contract was entered into between Orange and West Orange. Before entering into a contract, both the City of Orange and the Town of West Orange maintained independent sewage pumping stations for taking care of sewage in their adverse drainage districts. There is no question that if these pumping stations were re-established the trouble which South Orange has been experiencing within the last few years will be eliminated.

"When these pumping stations are re-established the excess of the capacity of the Orange pumps, if any, will be discharged directly into the stream. It will be a matter between the State Board of Health and Orange as to the damage caused by this overflow. At the present time the abnormal flow from the Orange sewers during a substantial part of the year, overloads the Joint Trunk Sewer, to the detriment of South Orange Village and the other towns lying below South Orange Village.

"I have no hesitation in making a definite and positive recommendation that the Joint Meeting should insist that these pumping stations be re-established.

"This recommendation is made because no matter what scheme of relief might be ultimately recommended to care for the extraordinary growth of West Orange and other cities, it cannot possibly be put into effect for at least three years from date.

"The Inspector reports that the Joint Trunk Sewer is except in the instances cited, satisfactory. The Joint Trunk Sewer is clean, and at the present time the normal flow in the sewer is about one-half the capacity in the sewer.

"Respectfully submitted,

"ALEXANDER POTTER."

AP/BS
Encl.

JOINT SEWER.

Table I.

Average Daily Contributing Flow to the Joint Sewer by the Various Municipalities for the Year 1919.
(Expressed in thousand gallons per day).

	Newark	Irving-ton	S. Orange Village	W. Orange	Summit	Millburn	Total
Average daily flow for the year.	3091	4054	1405	3623	1641	1328	15,142
Alloted capacity	4263	3373	3421	3528	4227	2188	21,000
Percentage of capacity	72.6	120.	41.1	102.6	38.8	60.7	72.1

JOINT SEWER.

Table II.

Average Daily Contributing Flow to the Joint Sewer by the Various Municipalities During Week of Maximum Flow in the Year 1919.
(Expressed in thousand gallons per day).

	Newark	Irving-ton	S. Orange Village	W. Orange	Summit	Millburn	Total
Average daily flow for the week.	4010	5010	2744	5058	2996	2221	22,219
Allotted capacity	4263	3373	3421	3528	4227	2188	21,000
Per cent. of cap.	94.0	148.7	80.2	143.3	70.8	101.5	105.8
Ratio of maximum flow to average flow for year.	1.30	1.24	1.91	1.40	1.82	1.67	1.47

Referring to the matter of the Boylan Street connection, the question as the whether the inspectors have the right to enter private property for the purpose of cutting off flows which should not be permitted to enter the Joint Trunk Sewer, was on motion referred to Counsel for an opinion.

Mr. Rankin stated that as Engineer of the Sewer Department of Newark, his attention had been called to this connection and that he had given orders to have it sealed.

It being the opinion of the Joint Meeting that it had no authority to grant such a permit as was requested by Mr. Thorpe, it was moved and carried that the request be refused.

A long discussion followed on the excessive flow from West Orange, its cause and the method to be taken to relieve the situation. The following resolution was then offered by Mr. Richards and on motion duly made, seconded and carried, it was

"Resolved that the matter of the surcharging by the Town of West Orange of the branch of the Joint Trunk or Outlet Sewer owned exclusively by the Town of West Orange and the Village of South Orange be referred to Mr. Riker, counsel of the Joint Body, for opinion thereon.

"Be It Further Resolved that Mr. Riker be requested to advise the Joint Body in writing as to what steps should be taken by the Joint Body in case any municipality so exceeds its capacity as to prevent or interfere with the use by any other member of the Joint Body of its quota in the Joint Trunk or Outlet Sewer or any branch thereof.

"Whereas the Village of South Orange has complained to the Joint Body that in times of severe storm the Town of West Orange exceeds its capacity in the branch of the Joint Trunk or Outlet Sewer owned exclusively by the Town of West Orange and the Village of South Orange, to the extent of surcharging same and preventing the use thereof by residents of Meadowbrook Lane and other streets near said sewer in the Village of South Orange, by reason of which the said branch sewer so owned then becomes a source of danger to the residents of the Village of South Orange and a cause of complaint to the Joint Body by the Board of Health of the Village of South Orange;

"And Whereas the state of facts complained of is confirmed by the Chief Engineer and by the Inspector of the Joint Body,

"Now on motion duly made, seconded and carried, Be It Resolved that the Joint Body request the Town of West Orange to take immediate steps to prevent the future surcharging of the sewer by the Town of West Orange to the damage of the residents of the Village of South Orange, contrary to the contract heretofore entered into defining and limiting the use of West Orange in said branch sewer."

Mr. Stanley asked for information in regard to the method of measuring the flow and as to their accuracy, which was explained at length by Mr. Potter. He stated that the results obtained were not absolutely correct, but probably the error would not exceed five per cent.

The report of the Treasurer was read and on motion received and ordered printed in the minutes.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on the 8th day of April, 1920, the date of his last report, he had on deposit in the Orange National Bank the sum of $680.47 with Warrant 2692.

for $62.50 outstanding, so that the total amount of cash on hand at the date of this report was the sum of $617.97.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1750. as shown on Schedule 1 hereunto annexed, so that the total amount of cash on hand was $2367.97.

"The Treasurer further reports that since the date of his last report, he has executed warrants, as shown on Schedule 2 hereunto annexed amounting to $1030.10. Warrant 2692 above referred to has been presented for payment, so that the Treasurer has on deposit in the Orange National Bank the sum of $1337.87 cash on hand with no warrants outstanding.

"All of which is respectfully submitted this seventeenth day of June, 1920.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1920.			
Apr.	8.	Balance	$617.97
"	19.	South Orange	250.00
"	21.	Summit	250.00
"	21.	Irvington	250.00
"	23.	West Orange	250.00
"	26.	Millburn	250.00
"	19.	Newark	500.00
			$2,367.97

SCHEDULE 2.

1920.			
Apr.	9.	E. S. Rankin, Secretary	$ 3.00
"	9.	C. W. Sandford	6.00
"	9.	J. J. Keating	2.92
"	9.	E. S. Rankin	11.60
"	9.	N. Y. Telephone Co.	47.55
"	9.	Flockhart Foundry Co.	60.00
"	9.	Weibezahl Print	5.25
"	9.	Commerce Printing Co.	16.00
"	30.	Alexander Potter	83.33
"	30.	C. W. Sandford	200.00
"	30.	J. J. Keating	120.00
"	30.	E. S. Rankin	35.16
May	31.	Alexander Potter	83.33
"	31.	C. W. Sandford	200.00
"	31.	J. J. Keating	120.00
"	31.	E. S. Rankin	35.16
			$1,030.10
		Cash on hand	$1,337.87

The Secretary stated that in accordance with the motion passed at the last meeting he had taken out a liability policy on the employees of the Joint Meeting, the premium, fixed by the State Commission being $146.30.

The following resolution was then read and on motion passed, 5 ayes, no noes.

"RESOLVED: That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1750 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 17th day of June, 1920.

"This is the assessment for the 2nd quarter of 1920."

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 5 ayes, no noes.

Alex. Potter, April Salary	$ 83.33
C. W. Sandford, April salary and horse.	200.00
J. J. Keating, April salary	120.00
E. S. Rankin, April salary and office...	35.16
Alex. Potter, May salary	83.33
C. W. Sandford, May salary and horse..	200.00
J. J. Keating, May salary	120.00
E. S. Rankin, May salary and office...	35.16
Weibezahl Print, printing minutes	8.04
Francis Speir, Executive Committee ..	10.00
N. S. Bartow, Executive Committee ...	5.00
D. W. Richards, Executive Committee..	5.00
H. J. Stanley, Executive Committee...	10.00
W. Campbell, Executive Committee....	10.00
E. G. Pringle, Executive Committee...	10.00
B. P. Laidlaw, Executive Committee...	10.00
H. R. Van Duyne, Executive Committee	5.00
William P. Coe, Liability Insurance....	146.30
C. W. Sandford, expense account	7.05
J. J. Keating, expense account	13.52
E. S. Rankin, Secretary, petty cash	70.50
	$1,187.39

The Chairman announced that the nomination of officers for the ensuing year was in order and the following gentlemen being nominated were unanimously elected:

Chairman, Francis Speir; Vice Chairman, Wellington Campbell; Secretary, Edward S. Rankin; Treasurer, Simeon H. Rollinson; Engineer, Alexander Potter; Chief Inspector, Corey W. Sandford; Assistant Inspector, John J. Keating; Counsel, Adrian Riker.

Mr. Stanley moved that the salary of Mr. Keating be increased from $120. to $150. per month starting with the current month. Carried 5 ayes, no noes.

After some discussion as to dates it was moved and carried that the Annual Inspection be held on July 16th.

On motion the meeting adjourned at 9.35 P. M.

EDWARD S. RANKIN,
Secretary.

Annual Inspection, August 4, 1920.

The annual inspection of the Joint Sewer was made on the above date, Chairman Speir and Commissioners Van Duyne, Richards and Laidlaw being present, accompanied by inspectors Sandford and Keating, Clerk Fitzsimmons and Engineer Redfern of South Orange and Superintendent of Sewers Broadwell of Newark. Mr. Potter being unavoidably detained in Cuba was represented by his assistant Mr. Neff. Engineer Winston of West Orange joined the party at lunch.

Leaving the Newark City Hall at 10 A. M., the first stop was made at Lyons Avenue and Coit Street, Irvington, where storm water in considerable quantities had been entering the sewer; thence across to Morris Avenue and through Union Township and Elizabeth to the Outlet. On the way note was made of the number of new houses being constructed in Union Township, particularly the Thorpe development near Colonial Avenue and the new operations at Raymond Terrace. Returning up Morris Avenue stops were made to inspect the flow at several points particularly where the different branches entered the main trunk. In all cases the sewer was found to be flowing about one-half full.

A most enjoyable feature of the occasion was the brief stop at the residence of the Chairman where a very interesting process of irrigation was being demonstrated.

At the luncheon which followed at the South Orange Lawn Tennis Club the matter of purchasing an automobile for the use of the inspectors was discussed. As there was not a quorum present no action was taken, but it was decided to hold a meeting at an early date and the Chairman requested Mr. Van Duyne to prepare a report on the matter.

The Secretary read what purported to be an account of the origin of the Joint Sewer project, which he claimed to have found hidden in an obscure corner of his desk.

Before leaving the Club a vote of thanks and appreciation was extended to the Chairman for his hospitality.

In the afternoon the Venturi meter, the Orange Intake, and other points along the South Orange-West Orange line were

visited and a stop made at the house of Mr. Greene whose cellar had been badly flooded during the severe storms which have occurred this year.

The party separated about 4 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of August 12, 1920.

A regular meeting of the Joint Meeting was held at the South Orange Village Hall on the above date at 8 P. M.

Those present were: Francis Speir, Chairman; H. R. Van Duyne, Newark; Wellington Campbell, Millburn; B. P. Laidlaw, West Orange and D. W. Richards, South Orange. Mr. Potter being absent due to ill health was represented by Mr. Neff. The Treasurer and Inspectors were also present.

The minutes of the meeting of June 17th were approved as printed.

The Secretary read the report of the Engineer which on motion was received and ordered printed.

"August 11th, 1920.

"THE JOINT MEETING,
Gentlemen:—

"I regret my inability to be present at the Joint Meeting Thursday night, but I understand there is nothing coming before the meeting which cannot be taken care of by correspondence.

"I beg to report progress upon the design for the augmentation of sewage capacity in the various branches of the Joint Trunk Sewer and I hope to be able to make a definite report at the next regular meeting.

"I would recommend that bids be received for the painting of the cast iron pipe across the flats near the Seven Bridges Road. It would seem that it is not necessary to coat the entire periphiry of the pipe but simply a few feet on top where the paint has been partially worn away by pedestrians walking over the pipe.

"Two weeks ago Friday this section was visited by a very heavy rainstorm, five inches falling in three hours, which storm flooded the Seven Bridges Road area but the sewer flow got back to normal twenty-four hours after the termination of the storm.

"I would recommend that the salary of the Chief Inspector

be increased. I also endorse the suggestion of the President that instead of a horse drawn vehicle the interests of the Joint Meeting will be best served by the purchase of a proper automobile truck. The recommendation with reference to a truck has been left in the hands of the Committee composed of the Secretary, Mr. E. S. Rankin and Mr. Van Duyne, the representative from Newark, who will report on this matter. In regard to the expense of the upkeep of the automobile I do not see that it is possible to do otherwise than to pay the expenses from month to month as they are incurred. The fluctuating price of gas and supplies and the uncertainty in knowing just what work the inspector will be called upon to do makes it impossible to fix in advance the cost for this service.

"The inspector has been in the employ of the Joint Meeting so long that we can assume that the bills submitted from month to month fairly represent the cost of upkeep of the car. After those bills have been presented for several months a lump sum might be arrived at.

"Respectfully submitted,
"Alexander Potter."

The Secretary then read the report of the Committee appointed at the annual inspection on the matter of purchasing a truck.

"August 12th, 1920.

"Mr. Francis Speir, Chairman,
"Joint Meeting.

"Dear Sir:—

"As informally requested by the members of the Joint Meeting, Mr. Rankin and I have made a careful investigation of the different practical types of commercial automobiles and recommend for Inspector Sanford's use in carrying on his work the purchase of a Dodge service car at a cost complete of $1,400.

"Yours very truly,
"Harrison R. Van Duyne."

On motion the report was received.

Mr. Van Duyne explained verbally how the recommendation had been arrived at and moved that the car be purchased. Carried. 4 ayes, no noes.

The same Committee was authorized to advertise for and purchase the car.

Mr. Van Duyne moved that the salary of the Chief Inspector be fixed at $200 per month and that he be relieved from

further upkeep of the horse and wagon and that the wagon belonging to the Joint Meeting be sold. Carried 4 ayes, no noes.

The same Committee was requested to dispose of the wagon.

Returning to Mr. Potter's report it was moved that the recommendation regarding the painting of the pipes be concurred in and the Secretary be instructed to receive bids for the work.

Carried, 4 ayes, no noes.

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on June 17th, 1920, the date of his last report, he had on deposit in the Orange National Bank the sum of $1,337.87 with no warrants outstanding.

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank the sum of $1,750 and has been allowed interest amounting to $5.59, so that the total amount of cash on hand was $3,093.46, as shown on Schedule 1 hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2 hereunto annexed, amounting to $1,309.89, all of which have been presented for payment, so that the Treasurer has on deposit in the Orange National Bank the sum of $1,783.57 cash on hand with no warrants outstanding.

"All of which is respectfully submitted this twelfth day of August, 1920.

"Simeon H. Rollinson,
"Treasurer."

Schedule 1.

1920.		
June 17.	Balance	$1,337.87
" 21.	South Orange	250.00
" 21.	Irvington	250.00
July 7.	Summit	250.00
June 29.	Millburn	250.00
July 8.	West Orange	250.00
July 20.	Newark	500.00
June 30.	Interest	5.59
		$3,093.46

SCHEDULE 2.

1920.			
June	18.	Weibezahl Print	$ 8.04
"	18.	Francis Speir	10.00
"	18.	N. S. Bartow	5.00
"	18.	D. W. Richards	5.00
"	18.	H. J. Stanley	10.00
"	18.	Wellington Campbell	10.00
"	18.	E. G. Pringle	10.00
"	18.	B. P. Laidlaw	10.00
"	18.	H. R. Van Duyne	5.00
"	18.	William P. Coe	146.30
"	18.	C. W. Sandford	7.05
"	18.	J. J. Keating	13.52
"	18.	E. S. Rankin, Secretary	70.50
"	30.	Alexander Potter	83.33
"	30.	S. H. Rollinson	62.50
"	30.	C. W. Sandford	200.00
"	30.	J. J. Keating	150.00
"	30.	E. S. Rankin	35.16
July	30.	Alexander Potter	83.33
"	30.	C. W. Sandford	200.00
"	30.	J. J. Keating	150.00
"	30.	E. S. Rankin	35.16
			$1,309.89
		Cash on hand	$1,783.57

The following resolution was read and on motion carried. 4 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1,750 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 12th day of August, 1920.

"This is the assessment for the 3rd quarter of 1920."

The Chairman read the opinion of Counsel on the West Orange matter.

"July 20, 1920.

"FRANCIS SPEIR, ESQ., Chairman,
"South Orange, N. J.

Dear Sir:—

"Referring to your letter of June 22nd enclosing copies of resolutions adopted by the Joint Meeting in reference to the surcharging by West Orange of the South Orange-West Orange branch of the joint trunk sewer and requesting an opinion with reference thereto and as to what steps should be taken by the joint body in case of a breach of the contract between the municipalities in the use of the sewer, I submit the following:

"I have before me a copy of the contract dated March 15, 1901, between the several municipalities concerned in the joint trunk sewer. Under Section 3 capacity is allotted to each in the main sewer and the various branches, West Orange being interested in the main sewer to the extent of 16.80% or 2,504,300 gallons of capacity daily, in the first division, west branch, to the extent of 27.07% or 2,504,300 gallons of capacity daily, and the third division, west branch, to the extent of 50.93% or 2,275,200 gallons daily. The final paragraph of Section 3 provides:

> "The total capacity allotted to each municipality in the joint outlet or trunk sewer and branches and appurtenances under said contract shall be the absolute property of said municipality and may be leased, sold, assigned, or otherwise disposed of by said municipality provided said lease, sale, assignment or other disposition shall in no way interfere with the capacity of said sewer allotted to each of the other municipalities parties to the said contract."

"I have also before me a copy of the statute under which the joint contract was executed, which is Chapter 36 of the Laws of 1899. I have been unable to discover any provision which places in the Joint Meeting either the duty or power to enforce the provisions of the contract executed under it as between the contracting municipalities excepting so far as relates to the construction of the sewer and its operation and maintenance. I think it is clear from the statute and contract that the capacity rights of the different municipalities are to be protected by each of the municipalities in its own corporate name. It is to be remembered that the Joint Meeting is not a body corporate; that consequently any action which might be taken to enforce any

provision of the contract enforcible through the Joint Meeting must be taken in the names of the contracting municipalities.

"If it is shown that West Orange has in fact exceeded the capacity allotted to it, thereby exhausting part of the capacity belonging to other municipalities, the appropriate legal proceedings can be instituted either in the name of all the other municipalities, for the reason that they are all interested in the main sewer, or in the name of those of the other municipalities interested in the first division, west branch, viz: Summit, South Orange and Millburn, or in the name of South Orange alone as the other municipality interested in the third division, west branch, for the reason that excessive use of the capacity in the third division, west branch, necessarily results in excessive use of the other branches in which it owns capacity.

"As to the appropriate form of action to be instituted in the event that it appears that a municipality is exceeding its capacity rights in the sewer, I am clear that it is a case in which equitable jurisdiction should be sought and can be maintained for the reason that the damage resulting to the other municipalties cannot be compensated by money damages and is irreparable in character. Under all the circumstances in the case, I think it would be much simpler for the action to be brought, if one is determined upon, in the name of South Orange and that suit should be for injunction in the Court of Chancery. Inasmuch as the action would be really for the benefit of all the other municipalities owning capacity in the sewer, I think that they would be quite justified in agreeing to contribute toward the expense of the litigation.

"Yours very truly,

"Adrian Riker."

Moved and carried that the report of Counsel be received and printed in the minutes.

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee. 4 ayes, no noes.

Alexander Potter, June salary	$ 83.33
S. H. Rollinson, April, May, June salary.	62.50
C. W. Sandford, June salary and horse.	200.00
J. J. Keating, June salary	150.00
E. S. Rankin, June salary and office ...	35.16
Alexander Potter, July salary	83.33
C. W. Sandford, July salary and horse..	200.00

J. J. Keating, July salary	150.00
E. S. Rankin, July salary and office	35.16
Weibezahl Print, printing minutes	8.19
N. Y. Telephone Co., telephone service..	20.80
E. S. Rankin, Secretary, petty cash	19.00
	$1,047.47

On motion adjourned at 8.50 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of September 30, 1920.

A regular meeting of the Joint Meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Those present were Francis Speir, Chairman; H. J. Stanley, Irvington; Dr. Campbell, Millburn; H. R. Van Duyne, Newark; D. W. Richards, South Orange, and E. G. Pringle, Summit. The Engineer, Treasurer and Inspectors were also present and Engineer Casey of Irvington.

The minutes of the last meeting were on motion approved as printed.

Engineer Potter presented his regular report which on motion was received and ordered printed in the minutes.

"September 30th, 1920.

"The Joint Meeting,

"South Orange Village, N. J.

Gentlemen:—

"Since the last meeting the only serious condition that has developed in the Joint Trunk Sewer has been some kind of a stoppage in the Joint Trunk Sewer on South Orange Avenue in the vicinity of the Velodrome, between the Speedway and Munn Avenue, directly opposite the lower end of the old Maybaum line.

"The obstruction occurring within twenty feet or thirty feet below a manhole has made the problem difficult to diagnose. Entrance to the sewer could not be made in the manhole close to the point where the block occurred, for the manhole was flooded, and the only means of determining the nature of the blockage was by rodding from the remote manhole, one hundred and sixty-four feet away.

"One hundred and sixty-four feet on the surface is a reasonably large distance, but one hundred and sixty-four feet inside of a 12″ sanitary sewer is a very much longer distance, in terms of sewer cleaning and sewer investigation.

"The trouble has been aggravated because it is difficult to dig down to find the obstruction from the surface. When the sewer was laid the street car tracks were on the side of the street, forcing us to lay the sewer towards the center of the thoroughfare, but after the sewer was laid the track was changed and is now located directly over the sewer. Furthermore, the street has been paved with asphalt block pavement on a concrete base and the Inspector has been loathe to tear up this pavement if there was any way out of the difficulty. Every means possible has been

used, unsuccessfully, to remove the stoppage. Tomorrow the manhole next above the one near the break will be blocked, the sewage diverted, thus giving the Inspector an opportunity of entering the manhole near the break, when it will soon become evident whether the break was caused through broken pipe or whether it is another case of large objects having no business in the sewer causing the obstruction.

"It does not necessarily follow that the obstruction is caused by direct tampering with the Joint Trunk Sewer. We have had cases where the character of the obstructions clearly shows that they were inserted originally in one of the lateral sewers and forced down into the Joint Trunk Sewer.

"It is to be regretted that more information can not be given at this time either as to the extent of the obstruction, or the cost of putting the sewer into proper shape.

"Since the last meeting, there has been no serious flooding of the sewers and but a few minor stoppages.

"There can be no question but that the position taken by your Engineer that the amount of flow coming from Orange during rainy periods is very much in excess of the amount contributed by West Orange sewers, and I am of the opinion that the only way to prevent this excess flow is by the construction of a positive cut-off so that during times of excessive flow a predetermined amount shall enter the sewer and no more.

"Complaints have been made that there was a direct pollution in the Rahway River not only of sewage but of hat factory wastes, This has been noticed on several different occasions.

"In response to a special complaint by a citizen of South Orange, your Engineer ordered the Inspector to follow the polluting matter to its source and he found an obstructed sanitary sewer in the City of Orange which obstructed sewer caused the sewage to be diverted to a storm sewer which in turn discharged into the Rahway River at Christopher Street.

"The attention of the City Engineer of Orange was called to this condition. He gave orders at once for the remedying of the same which orders were carried out immediately.

"Work upon the investigation of the relief of the crowded conditions of the sewer and the surveys in connection therewith has been delayed by reason of the difficulty in securing help upon the surveys and transportation for men excepting at high costs. The inspector now has a car available and conditions are such that the work can be started again shortly.

"Your Engineer simply reports progress at this time in connection with this work and submits bills for the services of as-

sistants, laborers, helpers and bus services, covering the months of July and August, amounting in all to $440.00.

"You will recall that the Borough of Hillside requested terms from the Joint Trunk Sewer for permission to enter the Joint Trunk Sewer. Your Engineer had a conference with the Sewer Committee of the Town of Hillside together with their engineer at which meeting the entire subject was fully and freely discussed and another meeting arranged for which has not yet been held.

"The iron pipe across the Seven Bridges Road needs repainting. Sufficient paint can be procured to coat the upper half of the pipe for approximately $50.00. Labor should not cost in excess of $75.00. I request authority to order the paint and hire the labor or let a contract for this work if it can be contracted for at a price not exceeding $150.00. It is not necessary to paint the lower half of the pipe.

"Respectfully submitted,

"ALEXANDER POTTER."

It was moved and seconded that the Engineer be authorized to have the pipes painted at a cost not to exceed $150. Carried, 5 ayes, 0 noes.

A long discussion followed on the survey being made by Mr. Potter, the possibility of uniting in the Rahway Valley project and the payment of the bills submitted for labor, etc. It was moved, seconded and carried, 5 ayes, 0 noes that the bills be approved and ordered paid.

The report of the Treasurer was read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on August 12th, 1920, the date of his last report, he had on deposit in the Orange National Bank the sum of $1,783.57 with no warrants outstanding.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1,510 and has been allowed interest amounting to $7.07. so that the total amount of cash on hand was the sum of $3,300.64, as shown on Schedule 1 hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule 2 hereunto

annexed amounting to $1,047.47, so that the total amount of cash on hand is the sum of $2,253.17. Warrants 2741, 2742, 2743, 2744 and 2745 amounting to $530.99 have not been presented for payment, so that the Treasurer has on deposit in the Orange National Bank the sum of $2,784.16 with said warrants outstanding.

"All of which is respectfully submitted this 30th day of September, 1920.

"Treasurer."

SCHEDULE 1.

1920.			
Aug.	12.	Balance	$1,783.57
"	16.	South Orange	250.00
"	19.	West Orange	250.00
"	25.	Summit	250.00
"	30.	Millburn	250.00
Sept.	7.	Tap fee	10.00
"	17.	Newark	500.00
"	30.	Interest	7.07
			$3,300.64

SCHEDULE 2.

1920.			
Aug.	12.	N. Y. Telephone Co.	$ 20.80
"	13.	Weibezahl Print	8.19
"	13.	E. S. Rankin, Secretary	19.00
"	30.	Alexander Potter	83.33
"	30.	C. W. Sandford	200.00
"	30.	J. J. Keating	150.00
"	30.	E. S. Rankin	35.16
Sept.	30.	Alexander Potter	83.33
"	30.	C. W. Sandford	200.00
"	30.	J. J. Keating	150.00
"	30.	S. H. Rollinson	62.50
"	30.	E. S. Rankin	35.16
			$1,047.47
		Cash on hand	$2,253.17

Mr. Van Duyne made a verbal report on the purchase of the car for the use of the inspectors, stating that after investigation a Dodge commercial car was decided on and in order to comply with the law, an advertisement was inserted in the Newark Evening News calling for bids. The car had been purchased and was now in use.

The Secretary stated that he had received a letter from the printers stating that owing to the largely increased cost of paper the price for printing the minutes would be increased to one dollar and one half per page. After making inquiries and considering the increase reasonable he had accepted the price. The action was approved.

The following resolution was read and on motion carried. 5 ayes, 0 noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $1,750 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 30th day of September, 1920.

"This is the assessment for the 4th quarter of 1920."

Mr. Potter stated that he had attended a meeting of the Hillside Committee in regard to allowing the Township capacity in the Joint Sewer, but could not at this time recommend granting the request.

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee. 5 ayes, 0 noes.

Alexander Potter, August salary	$ 83.33
C. W. Sandford, August salary	200.00
J. J. Keating, August salary	150.00
E. S. Rankin, August salary and office ..	35.16
Alexander Potter, September salary	83.33
C. W. Sandford, September salary	200.00
J. J. Keating, September salary	150.00
E. S. Rankin, September salary and office	35.16
S. H. Rollinson, July, Aug., Sept. salary	62.50
Adrian Riker, Retainer and fee	275.00
Weibezahl Print, printing minutes	17.50

American Surety Co., Premium on Treasurer's Bond	20.00
Newark Evening News, Advertising for car	1.20
Bonnell Motor Car Co., Dodge commercial car	1,400.00
C. W. Sandford, Auto expenses	35.66
C. W. Sandford, Expense account	10.60
E. S. Rankin, Expense account	1.22
E. S. Rankin, Secretary, Petty cash	50.50
Alex. Potter, Expenses connected with survey	443.00
Post Co., Tools	10.10
	$3,264.26

On motion the meeting adjourned at 9.30 P. M.

EDWARD S. RANKIN.
Secretary.

Joint Meeting of December 2, 1920.

A regular meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Those present were Francis Speir, Chairman; Dr. Campbell Millburn, and Messrs. Van Duyne, Newark; Stanley, Irvington; Laidlaw, West Orange; Richards, South Orange and Pringle, Summit. The Engineer and Inspectors were also present.

The minutes of the last meeting were approved as printed.

The Engineer read his regular report which on motion was received and ordered printed.

"December 2nd, 1920.

THE JOINT MEETING,

"South Orange, N. J.,

Gentlemen:—

"I beg to submit the following report. Since last meeting there has been no unusual occurrence in connection with the maintenance and operation of the Joint Trunk Sewer.

"The stoppage that occurred on South Orange Avenue the last of September has been temporarily repaired. I am of the opinion that it will be necessary to replace a section of several hundred feet of the sewer in the vicinity of the break, because in the relocation of the street car tracks when South Orange was paved it was placed directly over the sewer and a certain amount of damage was done to portions of the sewer by the grading contractors. In my judgment it would be better to replace this sewer by a section constructed in the sidewalk so as to interfere as little as possible with traffic during the period of reconstruction and to facilitate maintenance.

"It is of interest to note the nature of the obstructions removed by the Inspector, for it is evident that such obstructions are caused by willful tampering with the sewer. The Inspector took out of the pipe caddy sticks, an iron axle of a doll's carriage, wound in with cotton waste, rags and wire.

"The Inspectors report that their work of inspection has been greatly facilitated and that they are able to visit each section of the sewer more frequently because of the use of the automobile The inspectors have traveled over two thousand (2000) miles in the car since it was purchased. I recommend that the action of Inspector Sandford in selling the old wagon for Seventy Dollars ($70.00) be confirmed. The Inspector had it sold for Seventy-five Dollars ($75) but the purchaser failed to put in an appearance.

"We are awaiting the arrival of the material to paint the cast iron pipe across the Seven Bridges road. The Inspector has made an arrangement with the painter to do the painting for Fifty Dollars ($50.00), and we have purchased sufficient paint to do the work for about Thirty-five Dollars ($35.00).

"We have continued our studies in connection with the permanent relief to be afforded the municipalities forming the Joint Trunk Sewer, but these investigations have not been advanced to a point where a definite recommendation can be made. The expense of my assistants in connection with this work since the last meeting has not been great so that no bill is submitted at this time.

"In this connection I think it is only fair to state that the problem confronting your Engineer in connection with this investigation cannot be treated lightly nor can it be undertaken without assuming substantial expense. Unless the Joint Trunk Commission is willing to undertake this expense your Engineer does not desire to be placed in the attitude of urging the Joint Meeting to an expense that is not wholly justified and which it voluntarily does not wish to assume.

"Upon the findings of your Engineer in this matter will depend the spending or not spending of a large sum of money on the part of the Joint Meeting, and therefore very careful consideration should be given to the matter at this crisis by your Engineer who should be able to ascertain all the facts necessary not only for his careful consideration of the problem, but in order that he may present the matter fully before you. While an immense quantity of facts is already in his possession, due to his long and active association with the Joint Trunk Sewer, there are certain developments, due to the rapid and unprecedented growth of certain communities that need to be investigated and certain conditions ascertained. To do this will entail some expenditure on the part of the Joint Meeting, but nothing, compared with the cost, were this matter to be considered de novo.

"At the last meeting I was asked to give some idea as to what amount the Joint Meeting would stand committed for these investigations. Frankly I do not know, but for your information I would call your attention to a recent number of the Engineering News-Record, in which is set forth what is considered to be reasonable charges for the various steps of engineering work by the various engineering organizations and by private individuals. The lowest charge for the reconnaissance and the preliminaries set down by any organization or individual is one-half of one percent (½%) of the cost of the work and running up to one and a half percent (1½%).

"I feel satisfied that the total cost in connection with this work would not exceed the minimum percentage suggested above, but I have no desire to proceed with this work unless the members of the Joint Meeting are fully satisfied that the expenditure is one that they desire to undertake.

"I have hoped to be able to have a definite report upon the elimination of the excess discharged through the West Orange line by the City of Orange but am unable to do so.

"The Joint Meeting having no contractural relation with the City of Orange cannot interfere or limit the discharge of any sewer entering the West Orange line from the City of Orange or from any other municipality to whom West Orange might desire by contract or otherwise to give permission to use their sewer. The amount contributed by West Orange and Orange jointly at the upper end of Section 4 of the Joint Trunk Sewer is at times over one hundred percent (100%) in excess of West Orange's allotted capacity in the Joint Trunk Sewer.

"It would seem, therefore, that the matter of restricting this excessive flow from the City of Orange is one which should be taken care of by the Town of West Orange.

"Respectfully submitted,

"ALEXANDER POTTER."

Mr. Potter made a further explanation of the break on South Orange Avenue and the proposed method of repair, but thought it could be deferred till spring.

It was moved that the action of the inspector in disposing of the wagon for seventy dollars be approved. Carried, 6 ayes, no noes.

In the matter of the further investigation on the Joint Sewer, Mr. Potter explained his position and asked for an expression of opinion from the members of the Joint Body. After some discussion it was decided to defer further consideration until the next meeting.

A further discussion of the West Orange flow and the contract between West Orange and Orange followed but no action was taken.

The Treasurer being absent, his report was presented by the Secretary and on motion was received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that he had on deposit in the Orange National Bank on September 30th, 1920, the sum of $2,784.16, with warrants amounting to $530.99 outstanding, so that the total amount of cash on hand on the date of his last report was the sum of $2,253.17.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $2,070., so that the total amount of cash on hand was the sum of $4,323.17, as shown on Schedule 1 hereunto annexed.

"The Treasurer furher reports that since the date of his last report he has executed warrants, as shown on Schedule 2 hereunto annexed amounting to $2,733.27, so that the total amount of cash on hand on the date of his report is the sum of $1,589.90. Warrants 2752 for $35.66 and 2753 for $10.60 are outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $1,636.16.

"All of which is respectfully submitted this 30th day of November, 1920.

"Simeon H. Rollinson,
"Treasurer."

Schedule 1.

1920.		
Sept. 30.	Balance	$2,253.17
Oct. 6.	West Orange	250.00
" 6.	Summit	250.00
" 11.	Sale of old wagon	70.00
" 18.	South Orange	250.00
" 21.	Newark	500.00
" 20.	Irvington	250.00
" 25.	Millburn	250.00
Nov. 17.	Irvington	250.00
		$4,323.17

SCHEDULE 2.

1920.				
Oct.	1.	Weibezahl Print	$ 17.50	
"	1.	American Surety Co.	20.00	
"	1.	Bonnell Motor Co	1,400.00	
"	1.	Newark Evening News	1.20	
"	1.	Post Co.	10.10	
"	1.	Alexander Potter	443.00	
"	1.	C. W. Sandford	35.66	
"	1.	C. W. Sandford	10.60	
"	1.	E. S. Rankin	1.22	
"	1.	Adrian Riker	275.00	
"	1.	E. S. Rankin, Sec'y	50.50	
"	30.	Alexander Potter	83.33	
"	30.	C. W. Sandford	200.00	
"	30.	J. J. Keating	150.00	
"	30.	E. S. Rankin	35.16	
				$2,733.27
		Cash on hand		$1,589.90

The Secretary made a statement as to the expenditures for the year and the probable needs for 1921. The following resolution was then presented and on motion carried, 6 ayes, no noes.

"WHEREAS, in accordance with Chapter 175 of the State Laws of 1919, the Joint Meeting shall before the first day of December in each year make an estimate of and determine the cost and expense of maintaining and operating such public improvements for the year beginning on the first day of January then next, and shall cause the same to be certified by the Secretary of the Joint Meeting to each of the municipalities contracting for said improvements;

"THEREFORE BE IT RESOLVED, That the Joint Meeting hereby estimates and determines the cost and expense of maintaining and operating the Joint Outlet Trunk Sewer for the year beginning January 1, 1921, to be the sum of $8,400, and the Secretary is hereby directed to mail a copy of this resolution to each of the municipalities represented in the Joint Meeting."

The Secretary stated that owing to the increased cost of labor his petty cash account was not sufficient. It was moved and carried, 6 ayes, 0 noes, that hereafter the petty cash account be increased to $150.

Moved that the Secretary be authorized to have copies of the bills to be introduced at the next session of the Legislature sent to him for inspection. Carried, 6 ayes, no noes.

The Chair appointed Messrs. Van Duyne and Stanley as the Legislative Committee.

It was moved and carried that an extension telephone be placed in Mr. Sandford's house and the Secretary was authorized to sign a contract with the Telephone Company for such extension.

Mr. Stanley stated that further complaints of odors on Augusta Street near Lyons Avenue had been received.

The following bills were read and on motion ordered paid, after being approved by the Finance Committee. 6 ayes, no noes.

Alex. Potter, October salary	$ 83.33
C. W. Sandford, October salary	200.00
J. J. Keating, October salary	150.00
E. S. Rankin, October salary and office..	35.16
Alex. Potter, November salary	83.33
C. W. Sandford, November salary	200.00
J. J. Keating, November salary	150.00
E. S. Rankin, November salary and office	35.16
Francis Speir, Executive Committee ...	20.00
Wellington Campbell, Executive Committee	15.00
H. R. Van Duyne, Executive Committee	20.00
H. J. Stanley, Executive Committee....	10.00
D. W. Richards, Executive Committee..	20.00
E. G. Pringle, Executive Committee....	10.00
B. P. Laidlaw, Executive Committee....	15.00
N. Y. Telephone Co., Telephone service.	21.80
Weibezahl Print, printing minutes	10.00
Town of West Orange, labor	22.00
C. W. Sandford, auto expenses	48.35
C. W. Sandford, expense account	1.80
J. J. Keating, expense account	3.26
E. S. Rankin, Sec'y, petty cash	135.17
	$1,289.36

On motion adjourned at 10 P. M.

E. S. RANKIN,
Secretary

Joint Meeting of January 13, 1921.

A regular meeting of the Joint Meeting was held at the South Orange Village Hall on the above date. The meeting was called to order by Chairman Speir at 8 p. m., those present being Dr. Wellington Campbell of Millburn, and Messrs. H. J. Stanley of Irvington, H. R. Van Duyne of Newark; D. W. Richards of South Orange and E. G. Pringle of Summit. Mayor Walter D. Van Riper, the new representative from West Orange accompanied by Ex-Mayor Rodgers came in later. The Engineer, Treasurer and Inspectors and Engineer Casey of Irvington were also present.

The minutes of the last meeting were approved as printed.

The Treasurer presented the following report which on motion was received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:—

"The Treasurer respectfully reports that on the 30th day of November, 1920, the date of his last report, he had on deposit in the Orange National Bank the sum of $1,636.16, with warrants amounting to $46.26 outstanding, so that the total amount of cash on hand at that time was the sum of $1,589.90.

"The Treasurer further reports that since the date of his last report, he has made no deposits in the Orange National Bank, but was allowed the sum of $8.86 interest, so that the total amount of cash on hand was the sum of $1,598.76 as shown on Schedule 1 hereunto annexed.

"The Treasurer further reports that since the date of his last report, he has executed warrants as shown on Schedule 2 hereunto annexed, amounting to $1,351.78, so that the total amount of cash on hand at the date of this report is $246.98. Warrants amounting to $46.26 which were outstanding on the date of his last report have been presented for payment, but warrants 2767 for $10 and 2783 for $62.50 amounting to $72.50 are now outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $319.48.

"All of which is respectfully submitted this 13th day of January, 1921.

"Simeon H. Rollinson,
"Treasurer."

SCHEDULE 1.

1920.			
Nov. 30.	Balance	$1,589.90	
Dec. 30.	Interest	8.86	
			$1,598.76

SCHEDULE 2.

1920.			
Nov. 30.	Alexander Potter	$ 83.33	
" 30.	C. W. Sandford	200.00	
" 30.	J. J. Keating	150.00	
" 30.	E. S. Rankin	35.16	
Dec. 3.	Francis Speir	20.00	
" 3.	Wellington Campbell	15.00	
" 3.	E. G. Pringle	10.00	
" 3.	H. R. Van Duyne	20.00	
" 3.	D. W. Richards	20.00	
" 3.	H. J. Stanley	10.00	
" 3.	B. P. Laidlaw	15.00	
" 3.	N. Y. Telephone Co.	21.80	
" 3.	Weibezahl Print	10.00	
" 3.	Town of West Orange	22.00	
" 3.	C. W. Sandford	1.80	
" 3.	C. W. Sandford	48.35	
" 3.	J. J. Keating	3.26	
" 3.	E. S. Rankin, Sec'y	135.17	
" 30.	J. J. Keating	150.00	
" 30.	C. W. Sandford	200.00	
" 30.	E. S. Rankin	35.24	
" 30.	Alexander Potter	83.37	
" 30.	S. H. Rollinson	62.50	
			$1,351.98
	Cash on hand		$246.78

Engineer Potter then presented his regular report.

"January 13th, 1921.

"JOINT MEETING,

"South Orange Village, N. J.,

"Gentlemen:—

"There is no matter of major importance to bring before the Joint Meeting at this time.

"Our Chief Inspector, Mr. Sandford, made an investigation of the complaint presented by Commissioner Stanley of Irvington at the last meeting. I submitted a copy of the Chief In-

spector's report to Mr. Stanley with a statement that if he desired me to investigate the matter further personally, I would be glad to do so. As I have not heard from him I presume the Inspector's report was satisfactory. The Joint Trunk Sewer was in no way responsible for the trouble complained of.

"Carrying out the instruction of the Joint Meeting, the painting of the iron pipe across the Seven Bridges Road has been completed at an expense of $50.00 for labor and $38.00 for paint, plus $1.39 for freight charges. We were authorized to spend up to $150.00 without further approval of the Joint Meeting.

"The International Coal Products Company have a factory upon Lyons Avenue and the discharging of certain wastes into the sanitary sewer produces a gas and a certain amount of steam which tends not only to disintegrate the cement motor in the joints but also seriously affects the operation of the Joint Trunk Sewer by making it dangerous for the Inspectors to enter the manholes in the vicinity of the plant. This trouble is accentuated by reason of the fact that one of the Joint Trunk Sewer gauges is placed in one of the manholes in close proximity to this plant so that the Inspectors are obliged in the performance of their duties to enter this manhole at least once a week.

"I would recommend that the matter be referred to Counsel and that he be authorized to send a proper notification to this company requesting them to make some other provision for the disposal of their wastes.

"The Stuyvesant Avenue connection of the South Orange Township to the Joint Trunk Sewer had to be replaced because of the collapse of the existing lateral sewer due to damage done by the paving contractors. A new sewer line was laid to the north of the paved portion of the street and a new manhole constructed on the Joint Trunk Sewer at the junction of this new sanitary sewer on Stuyvesant Avenue.

"This manhole was constructed in accordance with plans prepared by me and was supervised by one of my assistant engineers until the work was brought up above the flow line of the sewers. This work has been wholly completed in a satisfactory manner excepting the placing of the cast iron manhole head which should have been completed today.

"Outside of the time expense attached to the supervision of the work no other portion of the cost has been borne by the Joint Meeting.

"The general condition of the Joint Sewer is satisfactory. There has been no flooding at any point along the sewer. As is customary during each winter season immediately after the con-

struction of the dam in the Rahway River by the South Orange Field Club to facilitate the flooding and maintaining of the skating pond, the depth of water in the sewer has increased about twenty points. This is due to the additional head created on the sewer by the additional backing up of the water on the land. The net result of this operation is to increase the flow in the sewer thus decreasing its capacity for legitimate sewerage purposes.

"Respectfully submitted,

"ALEXANDER POTTER."

On motion this report was received and ordered printed.

After Mr. Potter had made a further explanation regarding the Coal Products Co. it was moved and carried that his recommendation be concurred in and the matter be referred to Counsel.

A discussion followed on the increase in flow caused by the dam erected by the South Orange Field Club.

It was moved, seconded and carried that the Secretary be directed to call the attention of the Village authorities to the matter and request them to be prepared to order the dam removed if necessary.

The following communication from the State Board of Health was read:

STATE OF NEW JERSEY

DEPARTMENT OF HEALTH

"January 10, 1921.

"Mr. Francis Speir, Chairman,

"Joint Meeting,

"52 Wall Street, New York City, N. Y.

"Dear Sir:—

"Investigations of complaints received by this Department show that the overflow of sewage from the Joint Outlet Sewer is increasing. Information is therefore requested as to what steps your Committee are taking in order to prevent this serious menace to the general health of the district.

"Very truly yours,

"J. C. PRICE,
"Director."

6-1-1.

The Chairman stated that he would answer the letter personally and has sent the following reply:

"January 18, 1921.

"J. C. Price, Esq.,
Director Department of Health of
State of New Jersey,
Trenton, N. J.

"Dear Sir:—

"I received your letter of January 9th and submitted it to the meeting of the Joint Body held on January 13th.

"On that date the Chief Engineer and the Inspectors reported that for over six months there had been no overflow from the sewer whatsoever. I would be obliged if you would let us know what and when complaints have been made that the overflow from the Joint Sewer is increasing. The Inspectors state that the official records show no overflows. I have not as yet rereceived definite information as to the effect of the storm of January 14th. On the night of January 14th I went with Mr. Sandford along the South Orange-West Orange section, where overflows have occurred in times of flood, and saw no evidence of overflow, although Mr. Sandford stated that on that day Meadowbrook Lane and the car tracks had been flooded.

"The Engineer of the Joint Body some time ago was instructed to consider and report as soon as his investigations allow, plans to ensure an increase of capacity that will soon be needed owing to the increase in the number of sewered streets and the rapid building of houses within the territory served by the Joint Trunk Sewer. The Engineer has reported progress but has stated that it will take some months before he can be ready to report definite plans to the Joint Body for their consideration.

"Very truly yours,

"(Signed) FRANCIS SPEIR."

The Secretary presented his annual trial balance and statement of receipts and disbursements.

SECRETARY'S TRIAL BALANCE

End of Fiscal Year December 31, 1920.

Maintenance		$387.92
Cash	$237.92	
Petty Cash	150.00	
	$387.92	$387.92

Distribution of Receipts.

Jan. 1, 1920 to Dec. 31, 1920.

Balance	$1,981.26	
Assessments	7,000.00	
Interest	27.34	
Tap fee	10.00	
Sale of Wagon	70.00	
	$9,088.60	

Disbursements.

Salary and office of Secretary	$ 422.00
Salary of Treasurer	250.00
Salary of Chief Inspector	2,400.00
Salary of Assistant Inspector	1,650.00
Services and retainer of Counsel	275.00
Salary of Engineer	1,000.00
Expense Accounts	142.78
Labor	316.17
Printing Minutes and Stationery	48.98
Executive Committee salaries	175.00
Miscellaneous	31.30
Telephone service	90.15
Manhole heads	60.00
Insurance	146.30
Automobile	1,400.00
Survey Expenses	443.00
Balance	237.92
	$9,088.60

On motion the report was received and ordered printed.

Regarding the action to be taken by the several municipalities on continuing the investigation looking to the enlarging of the Joint Sewer, Dr. Campbell stated that Millburn had taken no action. Mr. Pringle stated that Summit was in favor and had included about $1,200 in their budget for Joint Sewer expenses. Mr. Richards said that South Orange felt that the investigation should be made and was ready to spend $300 on it this year. Messrs. Stanley and Van Duyne reported no action taken by their municipalities but would be prepared to stand with the rest. No report was received from West Orange.

After some further discussion Mr. Pringle presented the following motion:

Moved, that after further consideration of the matter, the investigation by the Engineer for additional capacity for the towns belonging to the Joint Meeting, and such other municipalities as may hereafter join in such an undertaking be continued, the expense on this account to be reported at each meeting and to be at a rate not to exceed $2,500 for the calendar year of 1921, unless further authorization be given by the Joint Meeting. The motion was seconded and carried, 6 ayes, no noes.

The following resolution was presented and on motion passed, 6 ayes, no noes.

"RESOLVED: That the several municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2,100, which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 13th day of January, 1921.

"This is the assessment for the first quarter of 1921."

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 6 ayes, no noes.

Alexander Potter, December salary	$ 83.37
C. W. Sandford, December salary	200.00
J. J. Keating, December salary	150.00
E. S. Rankin, December salary and office	35.24
S. H. Rollinson, Oct., Nov., Dec. salary.	62.50
B. E. & George Larney, salary for 1920.	10.00
N. Y. Telephone Co., Telephone service.	24.50
Weibezahl Print, Printing minutes	10.00
R. A. Schrader, Painting pipes	50.00
C. W. Sandford, Expense account	3.61
C. W. Sandford, Auto expenses	47.50
E. S. Rankin, Expense account	10.97
E. S. Rankin, Secretary, Petty cash ...	35.50
	$723.19

Moved that the Secretary be authorized to pay a bill, when presented, for paint used in painting the iron pipes, said bill not to exceed $39.50. Carried. 6 ayes, no noes.

On motion the meeting adjourned at 9.20 P. M.

E. S. RANKIN,
Secretary.

Joint Meeting of March 24, 1921.

A regular meeting of the Joint Meeting was held on the above date in the South Orange Village Hall at 8 p. m.

Those present were Francis Speir, Chairman; Dr. Wellington Campbell of Millburn; and Messrs. H. J. Stanley, Irvington; H. R. Van Duyne, Newark; D. W. Richards, South Orange; and E. G. Pringle, Summit. The Engineer, Treasurer and Inspectors were also present, together with Mr. Penoyer of Millburn and Engineer Casey of Irvington.

On motion the minutes of the last meeting were approved as printed.

Mr. Potter read his regular report after which he explained further regarding the letter received by the Chairman from the State Board of Health. He also stated that the control device had been placed in the West Orange Line, but there had been no rain since to test it.

March 24th, 1921.

The Joint Meeting,

South Orange Village, N. J.,

Gentlemen:—

Since the last meeting considerable progress has been made in connection with the investigation authorized by the Joint Meeting having as its object the increase in capacity of the Joint Trunk Sewer. In planning to increase the capacity and remedy the unsatisfactory conditions existing on certain portions of the Joint Trunk Sewer, we are conducting the investigation along five different lines:

1. Enlarging or replacing the existing structure.

2. Paralleling the existing structure by a relief sewer either along the same alignment or with substantial modifications thereof to meet changes in local conditions or possibly to include additional areas.

3. Transference of the capacities of municipalities situated in the valley of the Rahway River to those in the Elizabeth River thus doubling the allotted capacities of the latter, and providing accommodations for the former by joining in the construction of the proposed Rahway Valley sewer.

4. The formation of an enlarged Joint Sewer District, having as its main outfall a sewer terminating in the vicinity of Tremley Point, near the mouth of the Rahway River, and utilizing the present Joint Trunk Sewer as far as its capacity will warrant.

5. Providing minor relief outlets with treatment plants capable of successive betterment.

All of these possibilities are being carefully examined and rough estimates have been prepared of the relative advantages of the various solutions of the problem.

Because of the instability of prices of labor and material at the present time it is unwise to submit figures as to cost at a time when we are not faced with the necessity of construction. Prices are of value only in determining relative advantages of the various schemes.

At first sight it would appear as if the most logical plan to adopt would be to transfer the capacities held in the lower portions of the Joint Trunk Sewer by the municipalities of West Orange, South Orange, Millburn and Summit, situated in the Rahway Valley to the municipalities of Irvington and Newark, situated and draining naturally into the Elizabeth River Valley and provide an entirely new outlet for the Rahway Valley municipalities either independently to tidewater or in conjunction with other towns that have under contemplation the construction of the Rahway Valley sewer. Investigations were first made with this object in view on the theory that it involved the least amount of reconstruction which normally is more difficult an operation than new construction.

The investigations as to the needs of the towns embraced within the limits controlled by the Joint Meeting and the needs of other municipalities which have requested us to consider their requirements, make it apparent that the existing sewer is inadequate. This conclusion is based on the assumption that we consider the needs of the cities tributary to the lower portion of the Joint Trunk Sewer upon the same basis of growth as was used in designing the Joint Trunk Sewer originally.

There would be no objection to the adoption of this plan, if the capacities in the present Trunk Sewer which would be released by the municipalities of South Orange, West Orange, Millburn and Summit were sufficient for the cities of Irvington and Newark for all reasonable time, but, when we realize that Newark and Irvington are at times delivering into the Joint Trunk Sewer sixty percent (60%) of the present capacity of the entire Joint Trunk Sewer, it is obvious that the natural growth of Newark and Irvington will require a sewer of the present total capacity of the Joint Trunk Sewer within a period of ten (10) years. This period is entirely too small to warrant any such radical change as it would be necessary by attempting to disband the present Joint Trunk Sewer, and have a new alignment of municipalities, such as would be necessary if the

towns in the Rahway Valley were to seek a tidewater outlet independent of Newark and Irvington.

The adoption of the plan of separating or dividing the territory now controlled by the Joint Meeting does not seem desirable. Such separation will require the almost complete abandonment of the tunnel section of the Joint Trunk Sewer which is the only portion of the Joint Trunk Sewer built upon sufficiently broad lines to serve all of the needs of the territory which might properly drain through it for many years.

If in the final analysis this conclusion should be verified, it should prove satisfactory to the towns now embraced in the Joint Meeting for an attempt to separate the territory into two distinct parts would involve questions of modifications of contracts and transference of rights which might prove such a stumbling block that the difficulties imposed by this policy will be greater than those to be encountered in the reconstruction or enlargement of the system whenever such reconstruction or enlargement can no longer be postponed.

It is to be hoped that before the next Joint Meeting, the survey, estimates and plans will be far enough advanced so that a definite report can be made upon this entire subject. In considering the enlargement of the Joint Trunk Sewer we are making provisions for the possible inclusion of South Orange Township, the Borough of Hillside, a portion of the City of East Orange which naturally drains to the Vailsburgh and Irvington section, as well as making provision for additional capacity required by the Borough of Roselle Park, the City of Elizabeth and the Township of Union.

The estimated cost of the engineering work so far incurred is in the vicinity of $1,100.00, and I still have hopes that the report, together with the estimates can be finished within the appropriation made for this work.

The Inspector reports that during the past winter the sewer has given less trouble than any previous winter, for a number of years. The winter has been open and the sewer has overflowed on one occasion during the winter. This occurred for a short period due to the rain following the heavy snow storm. This occurred in the last of February. Conditions were favorable for a serious flooding of the sewer but while there were a few complaints, the difficulties experienced were not so acute as in the years past.

This freedom from flooding is due in part to the fact that the dam was removed from the Rahway River during the flood period and in this connection I desire to state that the plans that we are preparing include a plan for the regulation of the

Rahway River and the removal of obstructions and the deepening of the river effected in conformity with the plan that should be adopted by the various towns along the line of the river.

Your Engineer has hoped to have the record of the flows contributed by the various municipalities. These have been prepared in detail but time did not permit the checking of them before the meeting.

I submit herewith a bill of Albert C. Smith for making a disc throttle in accordance with the plans made by your Engineer.

Respectfully submitted,

ALEXANDER POTTER.

On motion the report was received and ordered printed.

A long discussion followed in reference to the enlargement of the Joint Trunk Sewer, Mr. Potter explaining more in detail the investigations now being made.

The report of the Treasurer was then read and on motion received and ordered printed.

To the Various Municipalities Comprising the Joint Sewer Meeting:

Gentlemen:—

The Treasurer respectfully reports that on January 13th, 1921, the date of his last report, he had on deposit in the Orange National Bank, the sum of $319.48, with warrants amounting to $72.50 outstanding, so that the total amount of cash on hand on the date of this report was the sum of $246.98.

The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1,500, as shown on Schedule 1, hereunto annexed, so that he had cash on hand amounting to $1,746.98.

The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2, hereunto annexed amounting to $1,157.56, so that the total amount of cash on hand at the date of this report is the sum of $589.42.

The warrants previously outstanding have been presented for payment, so that the Treasurer now has on deposit in the Orange National Bank the sum of $589.42.

All of which is respectfully submitted this 24th day of March, 1921.

SIMEON H. ROLLINSON,
Treasurer.

SCHEDULE 1.

1921.			
Jan.	13.	Balance	$246.98
"	17.	South Orange	300.00
"	19.	Summit	300.00
Feb.	25.	Newark	600.00
Mar.	3.	West Orange	300.00
			$1,746.98

SCHEDULE 2.

1921.			
Jan.	13.	B. E. & George Larney	$ 10.00
"	13.	Weibezahl Print	10.00
"	13.	N. Y. Telephone Co.	24.50
"	13.	R. A. Shrader	50.00
"	13.	C. W. Sandford	3.61
"	13.	C. W. Sandford	47.50
"	13.	E. S. Rankin	10.97
"	13.	E. S. Rankin	35.50
"	31.	Alexander Potter	83.33
"	31.	C. W. Sandford	200.00
"	31.	J. J. Keating	150.00
"	31.	E. S. Rankin	35.16
Feb.	28.	Alexander Potter	83.33
"	28.	C. W. Sandford	200.00
"	28.	J. J. Keating	150.00
"	28.	E. S. Rankin	35.16
"	28.	Semet-Solvay Co.	28.50
			$1,157.56

Cash on hand $589.42

The Secretary stated that he had referred several sewer bills which have been introduced in the Legislature to Counsel and that Mr. Riker had advised against the Joint Meeting taking any action.

The following resolution was read and on motion carried, 5 ayes, no noes.

RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2,100, which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburgh), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 24th day of March, 1921.

This is the assessment for the 2nd quarter of 1921.

The Chairman inquired in regard to the Rahway River, whether the cleaning out of the stream and consequent reduction of the water level would affect the flow in the Joint Sewer. Mr. Potter answered that it would leave a very decided effect in reducing the level of the ground water and hence lessen the flow of ground water in the sewer.

Mr. Richards stated that the South Orange Board had passed a resolution ordering the river cleaned.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 5 ayes, no noes.

Alex. Potter, January salary	$ 83.33
C. W. Sandford, January salary	200.00
J. J. Keating, January salary	150.00
E. S. Rankin, January salary and office	35.16
Alex. Potter, February salary	83.33
C. W. Sandford, February salary	200.00
J. J. Keating, February salary	150.00
E. S. Rankin, February salary and office	35.16
Alex. Potter, March salary	83.33
S. H. Rollinson, Jan., Feb., March, salary	62.50
C. W. Sandford, March salary	200.00
J. J. Keating, March salary	150.00
E. S. Rankin, March salary and office	35.16
Semet Solvay Co., Paint	28.50
Weibezahl Print, Printing minutes	11.50
Albert Smith's Sons, Disk throttle	43.24
C. W. Sandford, Expense account	3.58
J. J. Keating, Expense account	3.12
C. W. Sanford, Auto expenses	47.54
E. S. Rankin, Secretary, Petty cash	56.00
	$1,661.45

It was moved, seconded and carried that an audit of the books of the Secretary and Treasurer be made provided the expense be not greater than last year.

Adjourned at 9.15 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 16, 1921.

ANNUAL MEETING.

The Annual Meeting of the Joint Meeting was held on Thursday evening, June 16th, 1921, at the South Orange Village Hall.

Those present were: Francis Speir, Chairman; H. J. Stanley, Irvington; Wellington Campbell, Millburn; H. R. Van Duyne, Newark; D. W. Richards, South Orange; E. G. Pringle, Summit; and W. D. Van Riper, West Orange. The Engineer, Treasurer and Inspectors were also present, and Engineer Casey of Irvington.

The minutes of the previous meeting were approved as printed.

Mr. Potter presented his regular report, which on motion was received and ordered printed in the minutes.

"June 16th, 1921.

"THE JOINT MEETING,
"South Orange Village,
"State of New Jersey.

"Gentlemen:

"It had been my hope to be able to submit at this time a more or less definite recommendation as to the best plan for augmenting the sewerage facilities from the various cities comprising the Joint Trunk Sewer and of which certain of the towns stand so much in need because of their legitimate and unprecedented growth.

"However, I am not prepared to report but can say that the studies that are being made tend to justify the statement already made to the Joint Meeting that the data now before me would indicate the advisability of maintaining the integrity of the sewer district served by the Joint Trunk Sewer.

"Your Engineer has been considerably handicapped by reason of the promise to keep the expense incident to this investigation within a total expenditure for the year of $2,500.00. Already his out of pocket expenses in connection with this investigation has reached to within $200.00 of this amount and as the work develops, further investigations are found to be essential for a proper consideration and study of the project without which a definite conclusion should not be reached.

"As to the smallness of the appropriation, I think it but fair to state that last year the City of Elizabeth engaged the services of a Consulting Engineer to study a plan for sewerage revisions and agreed to pay for this investigation the sum of

$20,000.00. Many other cases might be cited of cities remote from New York but it might be argued that conditions in these other places may not be comparable with the problems that we are studying in connection with the Joint Trunk Sewer but I think it is logical to assume that a study of the conditions in Elizabeth can be said to be more or less comparable with a study of the conditions existing throughout contiguous territory.

"It is so difficult in advance to state what such an examination and recommendation is worth that there is considerable embarrassment in setting down a figure which will not be exceeded in such an investigation.

"So far as receiving immediate compensation for such studies that your Engineer thinks are absolutely essential, I am not particularly concerned, if it is impossible to provide the funds necessary for such needed work within the present fiscal year, but as stated above, as the studies are made, new conditions develop which justify additional investigation which requires expenditures of certain sums for the payment of salaries of men engaged upon the work, and I hoped that the Board would have sufficient confidence in the judgment of your Engineer that he would not commit the Joint Meeting to expenditures that were unreasonable.

"From the investigation so far made additional adequate sewage facilities to provide for the needs of the municipalities for the next thirty years will cost in the vicinity of $1,500,000.00 and it is the accepted practice that the reasonable value for such services are worth approximately 1½% of the cost of the work. Any reduction in any sum spent for these investigations is due to the fact that information previously accumulated can be used in connection with these studies or that the studies themselves are not made with a proper degree of thoroughness.

"Since the last meeting certain matters have come to the attention of the Engineer which should be referred to the Joint Meeting.

"One of the most important of these is the case of S. Schenkman, a dairyman in Union Township who bought the John Dorer farm. Schenkman had trouble with his sewer connections from his stable backing up into his house and started to replace the 4" connection with an 8" pipe by which he intended to take care of the surface water from the adjoining land and sewerage and drainage from his house and a dairy of ninety cows and six horses. This work has been stopped and it is hoped that the Annual Inspection of the Joint Meeting can be held at an early date to give the members of the Joint Meeting an opportunity of seeing the old pipes exposed and other improper conditions. I am sure the inspection will lead to

the conclusion that a change in the law should make it necessary that all connections be constructed under the control of the officers of the Joint Meeting.

"In this particular house not only is the house connected to the sewer but four or five house leaders are directly connected thereto and the extension to his cow stable so arranged as to produce in time of a rainstorm an excessive contribution to the sewer besides carrying to the sewer, matter which has no right to be led to the sewer.

"There are two applications for permission to make connections to the Joint Trunk Sewer to be charged against South Orange Township's quota. This in my judgment is a matter between the Township of South Orange and the Village of South Orange for final solution. I can say, however, that I can see no objection to the granting of permits if connections are made under the supervision of the Inspector of the Joint Trunk Sewer, provided proper arrangements are made between the municipalities referred to.

"The two properties in question are those belonging to Samuel and Paul Nelson, lying at the intersection of Oak View Avenue and Dunnel Road and another property belonging to Randolph Gardner.

"I made an inspection of the terminus of the Joint Sewer at Bayway recently and find that the end of the sewer has been damaged to some extent by reason of the excessive weights that have been put upon the dock. I have asked the inspectors to make an examination to see the extent of the damage and hope to report upon it more definitely at the time of the Annual Inspection.

"For some time we have been having trouble with one of the branches of the Joint Trunk Sewer through Vailsburgh, a 12" line on Vermont Avenue. The probabilities are that this trouble was caused by the construction of a storm sewer by the City of Newark, the flow line of which was below the invert of the sanitary sewer spaced some distance away. Under such conditions it is physically impossible to insure the integrity of the smaller sewers on the higher grade. This sewer has been kept alive for a long time but conditions are now so bad that it becomes necessary to reconstruct this sewer. The total amount of reconstruction will not exceed 100 feet and I recommend that arrangements be made for its reconstruction.

"It is a difficult matter to bid for doing work of this character, the nearest approach to intelligent bidding would be to invite several contractors to submit proposals on the basis of the percentage of profit. If this is acceptable to the Joint Meeting, I will invite several contractors who have done work for the Joint Meeting to submit proposals for this work on this basis and will award it to the lowest bidder.

"Mr. Isaac Casey, Town Engineer of Irvington, submitted yesterday to me a plan for a proposed storm sewer on Augusta Street, the construction of which will interfere with our sanitary sewer in this street. I had hoped to have a definite report upon this for tonight's meeting but it involves some questions which cannot be decided quickly. I would suggest in order not to delay the construction of this storm sewer, that authority be given me to agree with the engineer of Irvington as to the plan for any modifications in the sanitary sewer made necessary by the construction of the storm sewer and that these modifications include construction of any revisions in the sanitary plan necessary to adequately provide for future growth.

"Respectfully submitted,

"ALEXANDER POTTER."

Mr. Potter made some further statements regarding his investigations and said that the studies now being made for Elizabeth, Roselle and some other towns would have a bearing on our own problem.

Regarding the South Orange Township's connections it was moved, and carried that the consent of the Joint Meeting be given for these connections subject to the approval of South Orange Village.

It was moved that the Engineer be authorized to receive bids for the repair of the Vermont Avenue sewer in accordance with his suggestion. Carried 6 ayes, 0 noes.

Mr. Casey submitted his plans for the proposed storm water sewer in Augusta Street. It was moved that the Engineer be authorized to approve the plans and that permission be granted to Irvington to move the Joint Sewer for a distance of about 325 feet at the expense of Irvington, but if instead of relaying the sewer with the present sized pipe, a larger pipe is used, the excess in cost will be borne by the Joint Meeting, said excess to be determined by Mr. Potter.

Carried 5 ayes, 0 noes, Mr. Stanley asking to be excused from voting.

The report of the Treasurer was then read and on motion received and ordered printed.

"To to the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on March 24th, 1921, the date of his last report, he had on deposit in the Orange National Bank, the sum of $589.42 with no warrants outstanding.

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank,

the sum of $2,410 as shown on Schedule 1 hereunto annexed, so that he had cash on hand amounting to $2,999.42.

"The Treasurer further reports that since the date of his last report, he has executed warrants as shown on Schedule 2 hereunto annexed amounting to $1,632.95, so that the total amount of cash on hand at the date of this report is $1,366.47, and there being no warrants outstanding the Treasurer has the said sum of $1,366.47 on deposit in the Orange National Bank.

"All of which is respectfully submitted this 16th day of June, 1921.

"SIMEON H. ROLLINSON.
"Treasurer."

SCHEDULE 1.

1921		
Mar. 24	Balance	$589.42
" 29	Irvington	300.00
" 29	Irvington	300.00
Feb. 5	Millburn (delayed in mail)	300.00
Apr. 11	Millburn	300.00
" 6	Summit	300.00
" 18	South Orange	300.00
" 19	Newark	600.00
May 20	Tansey & Pengrove (tap fee)	10.00
		$2,999.42

SCHEDULE 2.

1921		
Mar. 31	Alexander Potter	$ 83.33
" 31	S. H. Rollinson	62.50
" 31	C. W. Sandford	200.00
" 31	J. J. Keating	150.00
" 31	E. S. Rankin	35.16
" 24	Weibezahl Print	11.50
" 24	Albert Smith's Sons	43.24
" 24	C. W. Sandford	47.54
" 24	C. W. Sandford	3.58
" 24	J. J. Keating	3.12
" 24	E. S. Rankin, Sec'y	56.00
Apr. 29	Alexander Potter	83.33
" 29	C. W. Sandford	200.00
" 29	J. J. Keating	150.00
" 29	E. S. Rankin	35.16
May 30	Alexander Potter	83.33
" 30	C. W. Sandford	200.00
" 30	J. J. Keating	150.00
" 30	E. S. Rankin	35.16
		1,632.95
	Cash on Hand	$1,366.47

The Secretary presented the following resolution which on motion was passed 6 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2,100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, *i. e.*, each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 16th day of June, 1921.

"This is the assessment for the 3rd quarter of 1921."

The Secretary stated that in accordance with the motion passed at the last meeting he had received two proposals for auditing the books both of which exceeded the amount specified in the motion. It was moved that he be instructed to accept the lower of the two bids, that of the Federal Audit Company for $75 and have the audit made. Carried 6 ayes, no noes.

Mr. Stanley moved that the automobile belonging to the Joint Meeting be fully insured.

The motion was carried 6 ayes, no noes and the Secretary was instructed to attend to the matter.

The following persons were nominated and unanimously elected for the ensuing year.

Francis Speir, Chairman
Wellington Campbell, Vice-Chairman
Simeon H. Rollinson, Treasurer
Edward S. Rankin, Secretary
Alexander Potter, Engineer
Adrian Riker, Counsel
Corey W. Sandford, Chief Inspector
John J. Keating, Ass't. Inspector

The following bills were read and on motion ordered paid after being approved by the Finance Committee. 6 ayes, 0 noes.

Alexander Potter, April salary	$ 83.33
C. W. Sandford, April salary	200.00
J. J. Keating, April salary	150.00
E. S. Rankin, April salary and office	35.16
Alex. Potter, May salary	83.33
C. W. Sandford, May salary	200.00

J. J. Keating, May salary	150.00
E. S. Rankin, May salary and office	35.16
Francis Speir, Executive Committee	15.00
Wellington Campbell, Executive Committee	15.00
H. J. Stanley, Executive Committee	15.00
E. G. Pringle, Executive Committee	15.00
H. R. Van Duyne, Executive Committee	15.00
D. W. Richards, Executive Committee	15.00
W. D. Van Riper, Executive Committee	10.00
Weibezahl Print, Printing minutes	9.75
N. Y. Telephone Co., Telephone service	34.96
General Printing Co., Stationery	7.50
Wm. P. Coe, Liability policy	110.51
C. W. Sandford, Auto expenses	75.45
E. S. Rankin, Postage	1.54
E. S. Rankin, Secretary, Petty cash	32.00
	$1,308.69

After some discussion it was decided to hold the annual inspection on Wednesday, June 22, 1921.

It was moved that Mr. Riker be requested to submit a written opinion as to the power of the Joint Body in retaining the Engineer to plan the enlargement of the system, whether they have the power to go on with this work or whether their power is only recommendatory. Carried.

It was moved that Mr. Potter's bill for services rendered be paid as funds are available. 5 ayes, no noes.

On motion adjourned at 9:30 P. M.

EDWARD S. RANKIN,
Secretary.

Annual Inspection.

and

MEETING OF JUNE 22, 1921.

The annual inspection of the Joint Sewer was held on Wednesday, June 22, 1921.

The party consisting of Chairman Speir, Commissioners Van Duyne, Pringle and Campbell, President Hunt representing the Village of South Orange, Engineer Potter, Inspectors Sandford and Keating, Clerk Fitzimmons of South Orange and the Secretary, assembled at the Newark City Hall and at 9:45 A. M. started in three cars going direct to the outlet at the foot of Bayway. Commissioners Stanley and Van Riper were unavoidably detained but Mr. Stanley joined the party at noon. Here they boarded a launch and made an inspection of the effect of the effluent on the waters of Arthur Kill. The

tide was running up and following the traces of sewage they were found to disappear about at the B. and O. Railroad bridge. A visit was also made to the outlets of two of the Elizabeth sewers and the effluent noted.

Resuming the cars, the party proceeded up Bayway, stopping to inspect the flow at two points. The sewer was found to be running somewhat less than half full. The flow in the Elizabeth intercepting sewer just before it enters the Joint Sewer was also inspected.

A short detour was made through Hillside and the next stop made at the Dorer farm in Union where an inspection was made of the conditions reported by the Engineer at the last meeting.

The deep manhole at the tunnel was next visited and then the junction of the Summit-Irvington lines. This concluded the morning inspection.

After a stop at the home of Mr. Speir where some of the dust of the journey was washed away, the party proceeded to the house of the Orange Lawn Tennis Club and were bountifully entertained at luncheon by the Chairman.

Following the last course the Secretary assumed the Chair and suggested that a vote of thanks be extended to the host for his hospitality. The motion was made and unanimously carried. The Secretary then attempted to show by three examples the possibilities of the sewer in general and the Joint Outlet in particular as a subject for poetry.

Chairman Speir then called the meeting to order and the following letter from the Counsel was read and on motion ordered spread on the minutes.

"June 18, 1921.

"Edward S. Rankin, Esq., Secretary,
"City Hall,
"Newark, N. J.

"Dear Sir:

"In compliance with the request of the Joint Meeting under resolution passed June 16, 1921, that I submit a written opinion as to the power of the joint body in retaining the engineer to plan an enlargement of the system, whether they have the power to go on with this work or whether their power is only recommendatory, I submit the following:

"By a supplement to the act constituting the Joint Meeting approved April 15, 1919, being Chapter 174 of that year, it is provided:

'It shall be lawful for municipalities which have entered into joint contracts for the construction &c. of joint, outlet or trunk sewers * * * to enlarge or otherwise increase the capacity of any such joint, outlet or trunk sewers, &c. The execution of any such contract shall be first duly authorized by ordinance or resolution of the governing bodies or boards of said municipalities charged by law with the duty of constructing sewers and drains in the same.'

I think it is plain that the authority for the expenditure of monies in planning enlargement of the sewers as well as the construction of the same must come from the governing bodies or boards of the municipalities charged by law with the duty of constructing sewers and cannot be authorized by the Joint Meeting as such. It follows, therefore, that any action by the Joint Meeting can only be to recommend the preparing of plans for the enlargement of the sewer.

"Yours very truly,

"ADRIAN RIKER."

Some talk followed as to the necessity or enlarging the sewer and the best method to be followed, and the Secretary was instructed to consult further with Mr. Riker.

In the afternoon the Venturi meter was visited and the West Orange and Orange flows inspected.

The party separated about 3:30 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of September 1, 1921,

A regular meeting of the Joint Meeting was called for Thursday, September first, at the South Orange Village Hall.

There were present beside the Engineer, Treasurer and Inspectors, Francis Speir, Chairman; H. J. Stanley, Irvington; H. R. Van Duyne, Newark, and D. W. Richards, South Orange.

At 8.30 P. M. the Chairman announced that no quorum being present the meeting would stand adjourned.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of September 13, 1921,

A special meeting was held on the above date in the Newark City Hall at 4 P. M.

Mr. Speir being absent, Vice Chairman Campbell presided. The others present were Messrs. H. J. Stanley, Irvington; E. G. Pringle, Summit, and D. W. Richards, South Orange. Inspector Sandford was also present.

The Secretary read the report of the Treasurer which on motion was received and ordered printed.

TO THE VARIOUS MUNICIPALITIES COMPRISING THE JOINT SEWER MEETING:

"GENTLEMEN:

"The Treasurer respectfully reports that on the sixteenth day of June, 1921, the date of his last report, he had on deposit in the Orange National Bank the sum of $1,366.47 with no warrants outstanding.

"The Treasurer further reports that since the day of his last report he has deposited in the Orange National Bank the sum of $2,100 and has been allowed the sum of $8.24 interest as shown on Schedule 1, hereunto annexed, so that the total amount of cash on hand amounts to $3,474.71.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule 2, hereunto annexed, amounting to $2,839 68, so that the total amount of cash on hand on the date of this report is the sum of $635.03 with no warrants outstanding, so that the Treasurer has on deposit with the Orange National Bank the sum of $635.03.

"All of which is respectfully submitted this 13th day of September, 1921.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1921		
June 16	Balance	$1,366.47
" 12	Irvington	300.00
" 20	South Orange	300.00
" 22	Summit	300.00
" 22	West Orange	300.00
Aug. 5	Newark	600.00
June 30	Interest	8.24
Sept. 2	West Orange	300.00
		$3,474.71

SCHEDULE 2.

1921		
June 17	Francis Speir	$ 15.00
" 17	Wellington Campbell	15.00
" 17	H. J. Stanley	15.00
" 17	E. G. Pringle	15.00
" 17	H. R. Van Duyne	15.00
" 17	D. W. Richards	15.00
" 17	W. D. Van Riper	10.00
" 17	Weibezahl Print	9.75
" 17	N. Y. Telephone Co.	34.96
" 17	General Printing Co.	7.50
" 17	William P. Coe	110.51
" 17	C. W. Sandford	75.45
" 17	E. S. Rankin	1.54
" 17	E. S. Rankin, Sec'y	32.00
" 30	Alexander Potter	83.33
" 30	S. H. Rollinson	62.50
" 30	C. W. Sandford	200.00
" 30	J. J. Keating	150.00
" 30	E. S. Rankin	35.16
" 30	Alexander Potter	1,000.00
July 30	Alexander Potter	83.33
" 30	C. W. Sandford	200.00
" 30	J. J. Keating	150.00
" 30	E. S. Rankin	35.16
Aug. 31	Alexander Potter	83.33
" 31	C. W. Sandford	200.00
" 31	J. J. Keating	150.00
" 31	E. S. Rankin	35.16
		$2,839.68

On deposit Orange Nat. Bank $635.03

The Secretary then presented the following resolution which on motion was carried, 4 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2,100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, *i. e.*, each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said moneys be paid to the Treasurer of the Joint Meeting within twenty days of the 13th day of September, 1921.

"This is the assessment for the 4th quarter of 1921."

The following bills were read and on motion ordered paid after being approved by the Auditing Committee, 4 ayes, no noes.

Alex. Potter, July salary	$ 83.33
C. W. Sandford, July salary	200.00
J. J. Keating, July salary	150.00
E. S. Rankin, July salary and office	35.16
Alexander Potter, August salary	83.33
C. W. Sandford, August salary	200.00
J. J. Keating, August salary	150.00
E. S. Rankin, August salary and office	35.16
Alexander Potter, Surveys (on account)	1,000.00
Adrian Riker, Retainer	250.00
Weibezahl Print, Printing minutes	14.25
John R. Frank, Auto Insurance	112.85
N. Y. Telephone Co., Service	22.67
Federal Audit Co., Auditing books	75.00
C. W. Sandford, Auto expenses	40.85
C. W. Sandford, Expense account	13.89
J. J. Keatng, Expense account	4.13
E. S. Rankin, Sec., Petty cash	72.00
	$2,542.62

On motion the meeting adjourned at 4.15 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of October 6, 1921.

A regular meeting was held on the above date at 8 P. M. at the South Orange Village Hall.

Those present were Francis Speir, Chairman; Dr. W. Campbell, Millburn; Mr. H. J. Stanley, Irvington; Mr. H. R. Van Duyne, Newark and Mr. D. W. Richards, South Orange; Mr. Pringle being out of town, Summit was represented by City Engineer Brigham. Counsel Adrian Riker, Engineer Potter, the Treasurer and Inspectors were also present and Engineer Casey of Irvington.

The minutes of the last meeting were approved as printed.

Engineer Potter presented his regular report which on motion was received and ordered printed.

"October 6, 1921.

"JOINT MEETING,
"So. Orange Village,
"GENTLEMEN:

"I beg to report that since the last meeting, the repairs authorized to be made to the Vermont Avenue sewer have been completed. The contractors on this work were Harrison and Craig, of Newark, New Jersey. Bids were asked from several contractors on the percentage basis, each firm requiring cost plus fifteen percent.

"The total cost of this work amounted to $281.97, so that we had considerable leeway on the $500.00 limit provided by law. The work was well done, including the restoration of the pavement. The compensation paid to the contractor, fifteen percent, was very low for a work of such small magnitude and we are fortunate in having men whom we can call upon to help us out in case of emergency.

"Since the last meeting, we are in receipt of the recording gauges, ordered over a year ago from Jules Richard, on behalf of the Joint Meeting. One of these gauges has been found not to be in perfect condition and was returned to the manufacturer's agent, who supplied a new clock mechanism.

"Our first consignment of these Richard gauges, purchased many years ago, cost approximately $75.00 apiece. In placing the order over a year ago it was impossible, due to after war conditions, to get the company committed in advance to a specific price for these gauges. We find now that the price of the gauges is $115.00 each, making the total bill for the gauges $690.00, plus $25.00 for supplies.

"Your engineer desires authority to proceed with the completion of the surveys started in connection with the study for the increase of sewerage facilities, or, rather, for the relief of the unsanitary conditions complained of by the State Board of Health, due to the over-flooding of the sewers in times of severe storms. Considerable time and expense has already been incurred in connection with these studies, and it seems wise that they be pushed on to conclusion. I understand that the opinion of Counsel is that the Joint Meeting, as such, cannot appropriate additional funds for this matter without the consent of the constituent governing bodies of the various municipalities interested in the Joint Trunk Sewer.

"I therefore trust that some action will be taken looking to the furtherance of this matter, especially as the Township of Union and the Borough of Hillside are extremely anxious to secure accommodations in an enlarged sewer, if this be the ultimate solution recommended.

"The Township of South Orange is already exceeding its quota secured through contract privileges granted by South Orange Village and Millburn. It feels that it must do something to relieve this situation.

"My contention has always been that South Orange Township having been granted these privileges by the neighboring towns after it had refused to become a party to the Joint Trunk Sewer, now owes it to its neighbors to go along with any project that is to their advantage, provided the cost of doing so does not impose too great a burden upon South Orange Township. Therefore, if in the last analysis, the interest of South Orange Village and West Orange are best conserved by the reconstruction or enlargement of the existing sewer instead of by a transfer of rights, South Orange Township should be counted upon to assist in the development of that project which would be for the best interests of those neighbors which have assisted them in the past to make the growth of South Orange Township possible.

"The Village of South Orange and the Town of West Orange have been invited by the projectors of the Rahway Valley Sewer to dispose of their holdings in the Joint Trunk Sewer and purchase capacity in the proposed Rahway Valley Sewer.

"The advisability of taking such action cannot be determined until such time as a full investigation is made as to the most economic solution for all of the constituent members of the Joint Meeting. I therefore trust that action will be taken authorizing the continuance of this work so that I can complete the investigation which was started a year ago.

"At the present time the sewer is functioning admirably and very few of the sewers are running much over half full. The weather has been extremely dry, which accounts for the relatively low flow in the sewer.

"The Harper Avenue grading job which caused the burying of one of the manholes on the joint sewer has been held up by various circumstances for the present, and Mr. Richards of Coyne and Richards, the contractors, promised us that in case he can induce the property owner, Mr. Les Jiahnne, to allow him to continue the high level fill, he will at his own expense raise this manhole to grade under the supervision of the Chief Inspector.

"On the corner of Lyons Avenue and Wainwright Street, we find that a corner catch basin is in some way connected to Newark's sanitary sewer, which in turn empties into the Joint Trunk Sewer; this catch basin is three blocks east of our weir #133. We have taken this matter up with Mr. Rankin and he will look after it.

"Respectfully submitted,

"ALEXANDER POTTER."

It was moved, seconded and carried that the work of Harrison & Craig be accepted and the bill approved.

Mr. Speir called on Mr. Riker to advise as to the rights of the Joint Meeting in studying the enlargement of the Joint Trunk Sewer, explaining that in times of storm the sewer becomes surcharged and at times overflows at certain points, the effluent reaching the Elizabeth River; and that letters had been received from the State Board of Health calling attention to the matter. He stated further that Mr. Potter had been instructed to investigate the matter, but that the question had been raised as to the right of the Joint Meeting to spend money for this work.

Mr. Riker in replying said that no sharp line could be drawn between maintaining the sewer and planning for its enlargement as it became overcharged and that all expenses incident to the proper maintenance of the sewer were justifiable.

Mr. Potter stated that about $2,200 had already been expended and that this would be practically wasted unless the investigation could be completed.

Mr. Riker advised that in his opinion it would be better before going further to present all the facts to the municipalities composing the Joint Meeting and obtain authority from them to complete the work.

After considerable discussion it was moved and carried that Mr. Riker be requested to draft a resolution to be presented to the several municipalities setting forth the fact that the sewer had reached its capacity and that it was necessary to prepare plans for its enlargement.

This resolution subsequently prepared by Mr. Riker follows:

"WHEREAS the Engineer of the joint meeting by direction of this body has made tests and examinations as to the capacity of the joint sewer and has reported that at increasing periods its sewer is surcharged, and that its capacity life is practically exhausted, and that it will be necessary in the near future, in some way, to provide additional sewerage capacity for the municipalities concerned, and

"WHEREAS the joint meeting is advised that power to provide additional capacity by enlarging the sewer has been conferred upon the municipalities by statute passed in 1919, which authority in the opinion of the joint meeting should now be exercised, and that the necessary preliminary examinations and making of plans and specifications should be proceeded with speedily,

"RESOLVED that the municipalities concerned be requested to take the necessary action to obtain the necessary information through investigations, plans and specifications for increasing the capacity of the joint sewer as soon as possible, and

"BE IT FURTHER RESOLVED that a copy of this resolution be transmitted by the Clerk to each of the municipalities represented in the joint meeting."

Mr. Stanley raised the question as to the legality of the bill for the gauges, as it exceeded $500. After some discussion it was moved that inasmuch as it was an emergency matter, as the gauges were manufactured in France so that it was impractical to advertise for them, and as the price paid for the last gauges purchased was $75 a piece, at which price the cost would have been less than $500, that therefore the bill be approved. Carried.

The report of the Treasurer was read and on motion received and ordered printed.

"TO THE VARIOUS MUNICIPALITIES COMPRISING THE JOINT SEWER MEETING:

"GENTLEMEN:

"The Treasurer respectfully reports that on September 13th, 1921, the date of his last report, he had on deposit in the Orange National Bank, the sum of $635.03 with no warrants outstanding.

"The Treasurer further reports that since the date of his

last report he has deposited in the Orange National Bank the sum of $1,810, and has been allowed the sum of $3.84 interest, as shown on Schedule 1, hereunto annexed, so that the total amount of cash on hand amounted to $2,448.87.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule 2, hereunto annexed amounting to $886.63, so that the total amount of cash on hand on the date of this report is the sum of $1,562.24 with Warrants 2,857 and 2,859, aggregating $262.50 outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $1,824.74.

"All of which is respectfully submitted this 6th day of September, 1921.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE I.

1921		
Sept. 13	Balance	$635.03
June 27	Millburn (delayed)	300.00
Sept. 21	Summit	300.00
" 19	South Orange	300.00
" 21	Millburn	300.00
" 21	Irvington	300.00
" 21	West Orange	300.00
" 29	Geo. M. Briggs (tap fee)	10.00
	Interest	3.84
		$2,448.87

SCHEDULE 2.

1921		
Sept. 14	N. Y. Telephone Co.	$ 22.67
" 14	Weibezahl Print	14.25
" 14	C. W. Sandford	40.85
" 14	C. W. Sandford	13.89
" 14	J. J. Keating	4.13
" 22	Federal Audit Co.	75.00
" 22	John R. Franke	112.85
" 22	E. S. Rankin, Sec'y	72.00
" 22	Alexander Potter	83.33
" 22	C. W. Sandford	200.00
" 22	J. J. Keating	150.00
" 22	S. H. Rollinson	62.50
" 22	E. S. Rankin	35.16
		886.63
	On deposit Orange Nat. Bank	$1,562.24

The Secretary presented an estimate of the expenses for the balance of the year showing that with the balance due Mr. Potter and the bill for the gauges the deficit would amount to about $2,100. After some discussion the following resolution was presented and passed, 4 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2,100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, *i. e.*, each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 6th day of October, 1921.

"This is the final assessment for the year 1921."

The Secretary then read the report of the Auditors. On motion the report was received.

"July 9th, 1921.

"Joint Sewer Commission,
"Newark, N. J.
"Gentlemen:

"Pursuant to the instructions of your Mr. Edward S. Rankin, we have audited the books and records of the Joint Sewer Commission for the period of April, 1919 to December 31, 1920, inclusive and as a summary of our audit we attach hereto the following Exhibits:

"Exhibit 'A' Balance Sheet as of December 31, 1920.
"Exhibit 'B' Receipts and Disbursements for the period of April 1, 1919 to December 31st, 1920 inclusive.

"We have verified the assessments and other revenue with the minute book of the Committee and Bank account, also all vouchers drawn on the Bank and reconciled the balance at the close of period with the balance in Depository as follows:

"Our Balance December 31st, 1920 .....$ 246.98
"*Add Outstanding Checks*

#2767	$10.00	
2783	62.50	72.50

"Balance as per Bank Statement $319.48

"Warrant #2751 could not be found and all warrants are not receipted for by the Payees.

"We believe it would be advisable to open several accounts in the Ledger, such as Assessments, Taps, Interest, Salaries, Expenses, etc., to reflect the nature of your Receipts and Disbursements, instead of crediting and charging Maintenance account as heretofore and the information available would be of assistance to you.

"Respectfully yours,
"FEDERAL AUDIT CO., INC.,
"By A. J. Herriger, President,
"Certified Public Accountant."

Joint Sewer Commission
Balance Sheet
as of
December 31, 1920.
Assets.

Cash in Bank	$ 237.92	
Petty Cash on Hand (E. S. Rankin)	122.00	
Total Assets		$ 359.92

Liabilities.

Surplus in Maintenance Account	$ 359.92	
Total Liabilities		$ 359.92

Exhibit "A."

Joint Sewer Commission
Receipts and Disbursements
for period
April 1, 1919—December 31, 1920.
Receipts:

Balance April 1, 1919		$ 537.01
Assessments	$14,000.00	
Tap Fees	40.00	
Wagon Sold	70.00	

Interest, 1919	21.69	
Interest, 1920	36.20	
Total Receipts		$14,167.89
		$14,704.90
Disbursements:		
Warrants 2603 to 2783 inclusive		$14,457.92
Balance on Deposit in Orange National Bank..		246.98

Exhibit "B."

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 4 ayes, 0 noes.

Alex. Potter, June salary	$ 83.33
C. W. Sandford, June salary	200.00
J. J. Keating, June salary	150.00
S. H. Rollinson, April, May, June salary	62.50
E. S. Rankin, June salary and office	35.16
(By oversight the approval of the above bills was omitted at the last meeting.)	
Alex. Potter, Sept. salary	83.33
C. W. Sandford, Sept. salary	200.00
J. J. Keating, Sept. salary	150.00
S. H. Rollinson, July, Aug., Sept. salary	62.50
E. S. Rankin, Sept. salary and office	35.16
Ernest H. DuVivier, gauges	715.00
New York Telephone Co., service	29.61
Weibezahl Print, printing minutes	4.50
Garden State Vulcanizing Co., tires	153.74
Harrison & Craig, Vermont Ave. repairs	281.97
C. W. Sandford, auto expenses	15.35
E. S. Rankin, expense account	1.31
E. S. Rankin, Sec., petty cash	16.00
	$2,279.46

On motion the meeting adjourned at 9.30 P. M.

E. S. Rankin,
Secretary.

Joint Meeting of December 22, 1921.

The regular December meeting was held on the above date at 8 P. M. in the South Orange Village Hall.

There were present Francis Speir, Chairman; H. J. Stanley, Irvington; Wellington Campbell, Millburn; H. R. Van Duyne, Newark; D. W. Richards, South Orange and E. G. Pringle, Summit. The Engineer, Treasurer and Inspectors were also present and Engineer Casey of Irvington.

The minutes of the last meeting were on motion approved as printed, after which Engineer Potter read his usual report.

"December 22nd, 1921.

"THE JOINT MEETING,

"South Orange Village, N. J.

"GENTLEMEN:

"Since the last meeting the following matters have arisen which are of interest to the JOINT MEETING. The most important matter is the reconstruction and deepening of a part of the Joint Trunk Sewer due to the construction of a large storm drain, 84" in diameter, in Nye Avenue and Augusta Street, Irvington.

"The construction of this drain required the reconstruction of a section of the sewer extending from a new manhole 306 feet from Clinton Avenue to a new manhole 421 feet from Clinton Avenue. In reconstructing this sewer an 18" pipe was used as this will ultimately be required to provide for additional future sewerage facilities.

"The section of the Joint Trunk Sewer extending from a point 52 feet south of center line of Nye Avenue to a point 288 feet north of Nye Avenue has also been constructed of an enlarged section so as to meet future requirements. Cast-iron pipe was used on that portion of the Joint Trunk Sewer built under the storm sewer. As the Engineer of Irvington adopted the grade and size required by our Engineer for an enlarged future sewer, it would be proper to charge a certain percentage of the cost against the Joint Meeting. However, as this reconstruction would not be required immediately, the financial phase is a matter for the Joint Meeting to take up and decide.

"A fair compromise might be based on the fact, that as Irvington was required to make the change in the Joint Trunk Sewer because of the design of the storm drain at their own expense, that the added cost of providing a sewer adequate for future requirements should be borne by the Joint Meeting. The contractor has practically completed his work but an examination made by one of my assistant engineers accompanied by our Chief Inspector, indicates that some modification and changes are neces-

sary in one of the manholes and some obstructions cleaned from the sewers. The second new manhole south of Clinton Avenue needs modification at present as its shape prevents the Inspector using rods to clean the sewer.

"I am sure that Mr. Casey, the Engineer of Irvington will make these modifications, as he has agreed to do so. The improper construction of this manhole is up to the contractor doing this work, for he built the manhole on a snowy Sunday when our Inspector, and presumably Mr. Casey, did not know that work was going on.

"The Town of Irvington constructed an 8" lateral on one side of Augusta Street at their own cost and expense which will require some slight modification in its connection at the manhole.

"Since the last meeting, the sewer has been functioning satisfactorily. There have been no storms. The flow having been practically uniform for the past three months. There has been no trouble during this period at points where trouble is usually noted, namely, at the West Orange line, the sewer flowing about one-half full, and at the Irvington line where the sewer is flowing about two-thirds full. There is no gainsaying the fact that the time is rapidly approaching when relief must be had.

"Since our last meeting three (3) connections have been made to the Joint Trunk Sewer:

"Mr. Briggs, Springfield.

"Petz Property, Springfield.

"Wardell Property, Union.

"Connections on Morris Avenue which involve the removal of the pavement should be so surrounded with concrete that they will be protected from the pounding of traffic in passing over the poorly filled opening.

"The Schenkman job on Union Avenue has been finished. Four inch pipe has been laid; drainage from milk room and tanks has been connected to sewer in front of building instead of running back to the manure pits.

"The connection of these pits has been sealed up. The drive way has been modified and filled to turn drainage from buildings.

Respectfully submitted,

ALEXANDER POTTER,

On motion the report was received and ordered printed in the minutes.

The Secretary called attention to the fact that the matter of the Joint Meeting paying the difference in cost between the old and new sizes of pipes laid on Augusta Street, Irvington, had been provided for by motion made at the meeting of June 16th. Mr. Potter was instructed to estimate this difference in cost when

the work was completed and present a statement to the Joint Meeting.

The recommendation regarding the use of concrete around house connections was concurred in, and the Engineer instructed to insist on this form of construction in the future.

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on October 6th, 1921, the date of his last report, he had on deposit in the Orange National Bank the sum of $1,824.74 with warrants amounting to $262.50 outstanding, so that the total amount of cash on hand on the date of his last report was $1,562.24.

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank the sum of $2,430, so that the total amount of cash on hand was $3,992.24, as shown on Schedule I. hereunto annexed.

"The Treasurer further reports that since the date of his last report, he has executed warrants, as shown on Schedule 2 hereunto annexed, amounting to $3,154.46, so that the total amount of cash on hand on the date of this report is the sum of $837.78 with warrants 2878 and 2879 for $250 each still outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $1,337.78.

"All of which is respectfully submitted this 22nd day of December, 1921.

"Simeon H. Rollinson,
"Treasurer."

Schedule 1.

1921			
Oct.	6	Balance	$1,562.24
"	17	Tap fee	10.00
"	17	South Orange	300.00
"	18	Irvington	300.00
"	20	Newark	600.00
"	21	Tap fee	10.00
"	31	Millburn	300.00
Nov.	2	Summit	300.00
"	10	Edward S. Rankin (tap fee)	10.00
Dec.	6	Newark	600.00
			$3,992.24

SCHEDULE 2.

1921			
Oct.	11	N. Y. Telephone Co.	$ 29.61
"	11	Weibezahl Print	4.50
"	11	Garden State Vulcanizing Co.	153.74
"	11	Harrison & Craig Co.	281.97
"	11	C. W. Sandford	15.35
"	11	E. S. Rankin	1.31
"	11	E. S. Rankin, Sec'y	16.00
"	31	Alexander Potter	83.33
"	31	C. W. Sandford	200.00
"	31	J. J. Keating	150.00
"	31	E. S. Rankin	35.16
Nov.	1	Ernest H. Du Vivier	715.00
"	9	Alexander Potter	500.00
"	30	Alexander Potter	83.33
"	30	C. W. Sandford	200.00
"	30	J. J. Keating	150.00
"	30	E. S. Rankin	35.16
Dec.	13	Adrian Riker	250.00
"	13	Alexander Potter	250.00
			$3,154.46

Cash on hand $837.78

The Secretary made a statement regarding the cost of maintenance for the past year and the probable amount needed for 1922. After some discussion the following resolution was adopted, 5 ayes, 0 noes.

"WHEREAS, in accordance with Chapter 175 of the State Laws of 1919, the Joint Meeting shall before the first day of December in each year make an estimate of and determine the cost and expense of maintaining and operating such public improvements for the year beginning on the first day of January then next, and shall cause the same to be certified by the Secretary of the Joint Meeting to each of the municipalities contracting for said improvements;

"THEREFORE BE IT RESOLVED, That the Joint Meeting hereby estimates and determines the cost and expense of maintaining and operating the Joint Outlet Trunk Sewer for the year beginning January 1, 1922, to be the sum of $8,400.00 and the Secretary is hereby directed to mail a copy of this resolution to each of the municipalities represented in the Joint Meeting."

After a further discussion on the proposed enlargement of the Joint Sewer and the cost of preparing preliminary plans and report, Mr. Pringle presented the following resolution which on motion was adopted. 5 ayes, no noes.

"WHEREAS the Joint Meeting has heretofore begun and partially completed, through its engineer, as a part of the maintenance of said Joint Trunk Sewer, and partially paid therefor, an investigation, looking to a report, as to the best methods of increasing the capacity of the Joint Trunk Sewer; and

"WHEREAS it is the unanimous opinion of the representatives of the several municipalities composing the Joint Meeting that said investigation should be completed by the engineer and that said engineer should make to the Joint Meeting and to the several municipalities composing the same a full and complete report of the conditions now existing, with his recommendations, said report with recommendations and supporting maps and data to be filed with and to become the property of the Joint Meeting and the several municipalities composing the same and to cover not only the question of reconstruction or enlargement of the present Joint Trunk Sewer but also the question of a proposed Rahway Valley Sewer, and any and all other alternative solutions suggesting themselves to the engineer; and

"WHEREAS the total inclusive additional cost of so completing such investigation, and furnishing and filing such report, recommendations, supporting maps and data, will amount to the sum of $4,200.00 and the consent of, and the appropriation of such money by, the several municipalities composing the Joint Meeting is necessary before such work can be authorized or done by the Joint Meeting;

"NOW THEREFORE BE IT RESOLVED that the total inclusive additional cost of completing such investigation, and furnishing and filing such report, recommendations, supporting maps and data will amount to the sum of $4,200.00; and be it

"FURTHER RESOLVED that the Joint Meeting recommends to each of the several municipalities composing the same that each of them by appropriate official action, communicated to the Joint Meeting, consent that the Joint Meeting proceed to have the engineer complete said investigation and furnish and file such report, recommendations, supporting maps and data with the Joint Meeting, to become the property of the Joint Meeting and the several municipalities composing the same, for a total additional sum, to include all of the above, of $4,200.00 and that each of the several municipalities appropriate and place at the disposal of the Joint Meeting for this purpose its share of the said sum of $4,200.00, in the same proportion as the several municipalities now contribute to the maintenance of the said Joint Trunk Sewer; and be it

"FURTHER RESOLVED that the Joint Meeting recommends that each of the several municipalities give its consent to the above and make the appropriation referred to above and turn over said money to said Joint Meeting on the express condition that the consent shall not be binding upon any such municipality and its appropriation and money shall not be expended by the Joint Meeting, unless and until all of the municipalities composing said

Joint Meeting shall have so consented and so made and turned over their appropriation."

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 5 ayes, 0 noes.

Alexander Potter, October salary	$ 83.33
C. W. Sandford, October salary	200.00
J. J. Keating, October salary	150.00
E. S. Rankin, October salary and office	35.16
Alex. Potter, on account of surveys	500.00
Alex. Potter, November salary	83.33
C. W. Sandford, November salary	200.00
J. J. Keating, November salary	150.00
E. S. Rankin, November salary and office	35.16
Adrian Riker, Retainer	250.00
Alexander Potter, On account of surveys	250.00
S. H. Rollinson, Oct., Nov., Dec., salary	62.50
C. W. Sandford, December salary	200.00
J. J. Keating, December salary	150.00
A. Potter, December salary	83.37
E. S. Rankin, December salary and office	35.24
Francis Speir, Executive Committee	20.00
Wellington Campbell, Executive Committee	20.00
H. J. Stanley, Executive Committee	25.00
H. R. Van Duyne, Executive Committee	20.00
D. W. Richards, Executive Committee	20.00
E. G. Pringle, Executive Committee	20.00
Wm. S. Hunt, Executive Committee	5.00
Weibezahl Print, Printing Minutes	12.75
American Surety Co., Premium on Treasurer bond	20.00
C. W. Sandford, Auto expenses	37.65
E. S. Rankin, Secy., Petty Cash	4.00
	$2,672.49

The Secretary was directed to have copies of the bills as introduced at the next session of the Legislature sent to him for inspection. 5 ayes, no noes.

The Chair appointed Messrs. Van Duyne and Stanley as the Legislative Committee.

The Secretary stated that it would be necessary to hold a meeting early in January in order to raise money for the January salaries. It was decided to hold the next meeting on January 5th, 1922.

On motion the meeting adjourned at 9.30 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of January 5th, 1922.

A regular meeting was held on the above date at 8 P. M. in the South Orange Village Hall.

Those present were Mr. Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; Mr. H. R. Van Duyne, Newark; Mr. D. W. Richards, South Orange and Mr. E. O. Pringle, Summit.

The Engineer, Treasurer and Inspectors were also present.

The Treasurer presented the following report which on motion was received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the 22nd day of December, 1921, the date of his last report, he had on deposit in the Orange National Bank the sum of $1,337.78, with warrants amounting to $500 outstanding, so that the total amount of cash on hand at the date of that report was $837.78.

"The Treasurer further reports that he has made no deposits since the date of his last report, but he has been allowed $7.59 interest, so that the total amount of cash on hand became the sum of $845.37, as shown on Schedule 1 hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2 hereunto annexed, amounting to $735.51, so that the toal amount of cash on hand on the date of this report is the sum of $109.86. Warrants aggregating $392.90 are now outstanding, so that the Treasurer has now on deposit in the Orange National Bank the sum of $502.76.

"All of which is respectfully submitted this 5th day of January, 1922.

"Simeon H. Rollinson,
"Treasurer."

Schedule 1.

1921			
Dec.	22	Balance	$ 837.78
"	30	Interest	7.59
			$845.37

SCHEDULE 2.

1921			
Dec.	30	Alexander Potter	$ 83.37
"	30	S. H. Rollinson	62.50
"	30	C. W. Sandford	200.00
"	30	J. J. Keating	150.00
"	30	E. S. Rankin	35.24
"	23	Francis Speir	20.00
"	23	Wellington Campbell	20.00
"	23	H. J. Stanley	25.00
"	23	H. R. Van Duyne	20.00
"	23	D. W. Richards	20.00
"	23	E. G. Pringle	20.00
"	23	William S. Hunt	5.00
"	23	Weibezahl Print	12.75
"	23	American Surety Co.	20.00
"	23	C. W. Sandford	37.65
"	23	E. S. Rankin, Sec'y	4.00
			$ 735.51
		Cash on hand	$109.86

The Secretary then presented his annual statement of receipts and expenditures for the year 1921 together with trial balance.

Distribution of Receipts:

Balance January 1, 1921	$ 237.92
Refund overpayment	.20
Interest	20.94
Assessments	10,200.00
Tap fees	50.00
	$10,509.06

Distribution of Expenses:

Chief Inspector, salary	$ 2,400.00
Assistant Inspector, salary	1,800.00
Engineer, salary	1,000.00
Secretary, salary and office	422.00
Treasurer, salary	250.00
Counsel, retainer	250.00
Gauges	715.00
Miscellaneous	80.74
Printing Minutes	62.75
Telephone service	111.74
Automobile expenses	530.93

Expense Accounts	42.15
Petty Cash (Labor Account)	215.59
Painting	78.50
Executive committee, salaries	230.00
Insurance	110.51
Survey	1,750.00
Audit of Books	75.00
Vermont Avenue sewer repairs	281.97
	$10,406.79
Balance on hand	$102.27

Secretary's Trial Balance.
Dec. 31, 1921.

Cash on hand	$102.27	Maintenance Acct.	$252.27
Petty Cash Fund	150.00		
West Orange (Final Assessement)	300.00	Assessment Acc't.	300.00
	$552.27		$552.27

On motion the report was received and ordered printed in the minutes.

The following resolution was read and adopted, 4 ayes, 0 noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2,100.00, which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 5th day of January, 1922.

"This is the assessment for the 1st quarter of 1922."

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee, 4 ayes, no noes.

New York Telephone Co., Telephone service	$25.88
John G. Krueger, Advertising agency, printing stationery	28.00
Geo. B. Larney, Cleaning river crossing	10.00
E. S. Rankin, expense account	10.33
	$74.21

A short informal talk followed on the proposed enlargement of the sewer after which the meeting adjourned at 8.15 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of February 16th, 1922.

A regular meeting of the Joint Meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Those present were Wellington Campbell, Millburn; H. R. Van Duyne, Newark; D. W. Richards, South Orange; E. G. Pringle, Summit, and W. D. Van Riper, West Orange. Engineer Potter and the Inspectors were also present.

Chairman Speir being absent the Vice Chairman, Dr. Wellington Campbell, presided.

The minutes of the last meeting were approved as printed.

Engineer Potter made a verbal report asking for authority to continue with his investigation on the enlargement of the Joint Sewer. In response to a question the Secretary stated that he had received formal notice from Summit and from West Orange that a resolution appropriating funds for continuing the work had been adopted and that Summit had paid their quota to the Treasurer of the Joint Meeting. Also that he had been notified unofficially that the other municipalities had passed similar resolutions. After considerable discussion the following resolution was presented and unanimously adopted:

> "Resolved, That the Engineer be authorized to proceed with the investigation, looking to a report, as to the best methods of increasing the capacity of the Joint Trunk Sewer, at such time as each Municipality shall have paid to the Treasurer of the Joint Meeting the sum appropriated for that purpose, that is six hundred (600) dollars from each municipality excepting the City of Newark which shall pay twelve hundred (1200) dollars or six hundred dollars for Newark and six hundred dollars for Vailsburg; and that the Secretary be directed to call on each municipality that has not already paid for the amount appropriated by it, for the investigation and report, supporting maps and data as to the best methods of increasing the capacity of the Joint Trunk Sewer."

Mr Potter stated that he had had access to a report made by Mr. Fuertes on the Sewerage of Elizabeth in which Mr. Fuertes stated that any disposal plant which in the future might be required for Elizabeth could also handle without pumping the effluent of the Joint Sewer. He also stated that the Township of Union was preparing plans for the sewering of the Vauxhall

district and had notified them that in order to keep within their quota of 375,000 gallons it would be necessary for the sewers to be made watertight with iron house connections.

The Secretary submitted a proof of a proposed new permit book, which on motion was approved and authority given to have printed.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee:

Alexander Potter, January salary	$ 83.33
C. W. Sandford, January salary	200.00
J. J. Keating, January salary	150.00
E. S. Rankin, January salary and office	35.16
Weibezahl Print, Printing Minutes	15.75
C. W. Sanford, Auto expenses	62.80
E. S. Rankin, Sect., Petty Cash	24.00
	571.04

On motion the meeting adjourned at 9:15 P. M.

EDWARD S. RANKIN,
Secretary

Joint Meeting of March 9, 1922.

A meeting was held at the South Orange Village Hall on the above date at 8 P. M.

There were present Dr. Wellington Campbell, Millburn; and Messrs. H. J. Stanley, Irvington; H. R. Van Duyne, Newark; D. W. Richards, South Orange, and E. G. Pringle, Summit.

The Engineer, Treasurer and Inspectors were also present and Engineer Casey of Irvington and Engineers Kreh and Simon of Union.

Chairman Spier being absent, Dr. Campbell presided.

The minutes of the last meeting were approved as printed.

The Secretary stated that the meeting was called to consider the application of Union Township to purchase their full contract capacity in the Joint Trunk Sewer and presented the following letter:

"Union, New Jersey, February 24, 1922.

In re *Sewerage District No. 1,*
"Township of Union.

"To the Honorable, The Joint Meeting, the
"Chairman and Representatives Thereof:

"Your petitioner, the Township of Union, in the County of Union, presents the following facts:

"Recently within the Township of Union there was created under the Statute, a District known as Sewerage District No. 1. By agreement between the Township and your Honorable Body the Township is entitled to capacity in the Joint Trunk Sewer as follows:

Upon no payment.....the sum of 150,000 gallons per diem.
Upon payment of $900.....the sum of 50,000 gallons per diem.
Upon payment of another $900
the sum of 100,000 gallons per diem.
Upon payment of another $700
the sum of 75,000 gallons per diem.
Total upon payment of $2,500
the sum of 375,000 gallons per diem.

"It is the wish of the Township that it be privileged to allot of its capacity the amount of 200,000 gallons per diem to the said district, which district is governed by three Commissioners, the personnel of which, under the Statutes, being the same

as the personnel of the Township Committee, and it is its further desire to receive its full capacity of 375,000 gallons daily now and to pay your body the consideration therefor, namely, $2,500. Before entering into any contract with the Commissioners representing the District the Township desires the permission of your body to allot to the District the portion of its capacity above named.

"Your petitioner understands that when giving such permission it is your custom to impose reasonable restrictions as to house connections, etc., and it assumes that such reasonable conditions will be embodied in the permission given.

"It is proposed that the conditions which shall be imposed, if the same prove acceptable to the Township, will be contained and reiterated in the contract to be entered into between the Township Committee and the District Commissioners.

"GEORGE S. BASHFORD,
"Chairman of the Township Committee
"of the Township of Union,
"WILLIAM W. FRIBERGER,
"Township Clerk.

"E. S. RANKIN, ESQ., *Sec'y.,*
"City Hall,
"Newark, N. J."

Engineer Potter then read his report which on motion was received and ordered printed.

"March 9th, 1922.

"THE JOINT MEETING,
"South Orange Village, N. J.
"GENTLEMEN:

"The Secretary has submitted to me a copy of the petition from the Vauxhall Sewer District of Union Township, requesting permission to connect the northern part of Union Township to the Joint Trunk Sewer at three different points. The petition expresses the desire of Union Township to take up the entire allotted capacity at one time and pay therefor the sum stipulated in the contract, namely, $2,500.00; it also expressed the desire to allot 200,000 gallons per day to the said district out of a total of 375,000 gallons per day reserved for them in the Joint Trunk Sewer.

"Taking up the requests in the petition seriatim, I beg to state that I have gone over the plans prepared by the Township Engineer and we have agreed on certain modifications. The sewage from the district to be cared for requires three outlets. It cannot be served economically with less. The total mileage in the system contemplated for construction consists of eight miles of mains and two miles of house connections.

"The 200,000 gallons per day that the Township desires to allot to this district is sufficient for the needs of the district only in the event that the most stringent method is taken to prevent ground-water infiltration and I would recommend that in granting a permit to connect up to the Joint Trunk Sewer that the contract require the specifications to be so worded as to call for the exclusion of practically all ground-waters from the laterals or house connections. The specifications should provide that all joints in the mains be made with a flexible composition joint, and that the house connections be constructed of cast-iron pipe and that the Sewer Commissioners retain direct supervision not only of the laterals in the street but also up to and within the walls of the cellars to be connected with the work; for only in this way is it possible to keep within the limit of a capacity of 200,000 gallons for the district proposed to be cared for. Furthermore the Inspector of the Joint Meeting should examine and pass upon the work.

"Regarding the statement of the Commissioners that it is their intention to set aside 200,000 gallons for the use of this district, leaving 175,000 gallons for the rest of the district, I do not know that the Joint Meeting could interfere with any internal arrangement within the Township as to the distribution of any part of its sewerage right, but at the same time, the Joint Meeting cannot acquiesce in any such internal arrangement, for to do so might obligate the Joint Meeting to conserve for the rest of the district not now considered in the sewerage program, even although the district to be sewered should exceed the quota of 200,000 gallons.

"The Commissioners in their petition agree to be bound by any reasonable restriction as to house connections and the restriction set forth in this report should protect the Joint Meeting.

"I would further recommend, however, that the Township be required to place automatic recording gauges at each of the three outlets to the Joint Trunk Sewer and that it further agree that when the gauges indicate that the total allotted capacity has been reached, it will pay for the excess use at a rate of compensation to be agreed upon, and the Township of Union will be accorded the privilege of and shall agree to enter into contractual relationship with the other municipalities on an equal basis in the construction of a new or enlarged structure.

"Against the 375,000 gallons allotted to Union Township in the Joint Trunk Sewer, not more than 30,000 is being utilized at present, for the reason that large sections of the built-up portions of the lower part of Union Township have been absorbed by the City of Elizabeth; as a consequence, that portion of the capacity allotted to the district automatically reverts to Union Township, and becomes a charge against the capacity of the City of Elizabeth.

"On various sections of the Joint Trunk Sewer, private property owners are filling in over the Joint Trunk Sewer. There has been no determination as to whether the obligation rests upon the Joint Meeting to reconstruct the manholes to the proposed new filling grade and I should like to have this matter referred to Counsel for his opinion. Accessibility must be maintained.

"The question involved is divided into two parts, first, manholes on private property and manholes on streets, where the grades of the streets have been changed. It is conceivable that a different opinion may be given to cover the two distinct classes. There are about twelve or fourteen manholes which will be involved in this question in the next year.

"The recent heavy rainstorm has given us an opportunity of studying the sewer under flood conditions. The West Orange-South Orange sewer, while gorged, did not overflow at any section. The amount of flow entering from West Orange, however, was equal to the combined capacity of West Orange and South Orange Village, clearly indicating the necessity of some relief in order that South Orange Village may enjoy the privileges of the sewer to which it has contributed. On the Newark-Irvington branch, the amount of flow was considerably in excess of the capacity of the pipe with the result that several manholes purged for a period of twelve hours, thus indicating the importance of providing relief.

"Your Engineer is ready to proceed with the survey and has in the meantime been collecting considerable data to facilitate him in speedily reaching a conclusion in connection with this important problem.

"Respectfully submitted,

"ALEXANDER POTTER."

A discussion followed regarding the application of Union Township, after which Mr. Pringle made the following motion: Moved that the communication of the Township of Union be referred to the Counsel and Engineer to report back to the Joint Meeting as to the form of resolution or other formal action to be taken by the Joint Meeting in response to the petition of the Township of Union. Carried.

The question in regard to the raising of manholes was on motion referred to Counsel for his opinion.

The report of the Treasurer was then read and on motion received and ordered printed in the minutes.

"To the Various Municipalities Comprising the Joint "Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on January 5th, 1922, the date of his last report, he had on deposit in the Orange National Bank the sum of $502.76, with warrants aggregating $392.90 outstanding, so that the total amount of cash on hand on January 5th, 1922, was $109.86.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $5,110, so that the total amount of cash on hand was $5,219.86, as shown on Schedule 1, hereunto annexed.

"The Treasurer further reports that since the date of his last report, he has executed warrants as shown on Schedule 2, hereunto annexed, amounting to $1,113.74, so that the total amount of cash on hand at the date of this report is the sum of $4,106.12; warrant No. 2907 for $83.33 has not been presented for payment, so that the Treasurer has now on deposit in the Orange National Bank the sum of $4,189.45.

"All of which is respectfully submitted this tenth day of March, 1922.

"Simeon H. Rollinson,
"Treasurer."

Schedule 1.

1922			
Jan.	5	Balance	$109.86
"	14	Summit	600.00
"	16	South Orange	300.00
"	18	Summit	300.00
"	23	Millburn	300.00
Feb.	3	Tap fee	10.00
"	20	South Orange	600.00
"	20	Millburn	600.00
"	24	Newark	1,800.00
"	18	West Orange	600.00
			$5,219.86

SCHEDULE 2.

1922			
Jan.	6	George B. Larney	$ 10.00
"	6	N. Y. Telephone Co.	25.88
"	6	John G. Krueger Adv. Agency	28.00
"	6	E. S. Rankin	10.33
"	30	Alexander Potter	83.33
"	30	C. W. Sandford	200.00
"	30	J. J. Keating	150.00
"	30	E. S. Rankin	35.16
Feb.	17	Weibezahl Print	15.75
"	17	C. W. Sandford	62.80
"	17	E. S. Rankin, Sec'y.	24.00
"	28	Alexander Potter	83.33
"	28	C. W. Sandford	200.00
"	28	J. J. Keating	150.00
"	28	E. S. Rankin	35.16
			$1,113.74
		Cash on hand	$4,106.12

Mr. Stanley presented the following communication:

"Irvington, N. J., March 9th, 1922.

"H. J. STANLEY, ESQ.,
"Commissioner Streets and Pub. Impts.,
"Irvington, New Jersey.

"DEAR SIR:

"We desire to make a connection with the joint trunk sewer running through the hospital site for the use of the hospital, and I would respectfully request that you take this matter up at the Joint Meeting and secure for us the necessary permit for making the connections.

"Very truly yours,
"FRANCIS S. GREEN,
"Director Parks and Public Property."

Mr. Casey stated that they desired to construct an eight-inch lateral connecting at a manhole in the Joint Sewer to which all of the hospital buildings would be connected. Mr. Potter objected to using an eight-inch pipe, stating that six inches would be ample for the purpose. After some discussion it was moved and carried that permission be granted to make the connection desired, the work to be done under the direction of the Engineer of the Joint Meeting.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee:

Alex. Potter, February salary	$83.33
C. W. Sandford, February salary	200.00
J. J. Keating, February salary	150.00
E. S. Rankin, February salary and office	35.16
J. G. Krueger Advertising Agency, permit book	12.00
J. J. Keating, expense account	4.08
Total	$484.57

On motion the meeting adjourned at 9.10 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of April 20, 1922.

A regular meeting of the Joint Meeting was held in the South Orange Village Hall on April 20th, at 8 P. M.

Those present were Francis Speir, Chairman; Wellington Campbell, Millburn; H. R. Van Duyne, Newark; D. W. Richards, South Orange, and E. G. Pringle, Summit. Mr. I. J. Casey represented Irvington at the request of Mr. Stanley, who was unable to attend.

The Engineer and Inspectors were also present.

The Minutes of the last meeting were approved as printed, after which Mr. Potter presented his report.

"The Joint Meeting,
"South Orange Village, N. J.,
"Gentlemen:

"I am pleased to report that there was no serious flooding of the Joint Trunk Sewer from Section No. 4 due to the Spring rains and freshets, although the sewers were surcharged on two occasions. On the Irvington section, No. 5, there have been two occasions when the sewer has been surcharged sufficiently to cause the purging of two manholes, one for a period of three hours and the other for a period of twelve hours.

"In regard to Union Township's petition, this report will be supplemented by an oral report after a conference with Mr. Riker, Counsel of the Joint Meeting, this afternoon, with regard to a supplementary contract with Union Township.

"We have continued our investigation in connection with the furnishing of additional sewerage facilities for the towns embraced in the Joint Trunk Sewer and the investigations in connection with this have proceeded to such a point that I will be able to make a definite report and recommendation on or before the 18th of May, at a date that will be agreeable to the members of the Joint Trunk Sewer Commission.

"Mr. H. J. Stanley, Commissioner of Streets and Public Improvements, wrote me some time ago stating that Irvington was contemplating the repaving of Lincoln Place and requested me to advise him whether or not the revised plan called for an enlargement of the existing Joint Trunk Sewer upon that street, so that if a new sewer had to be placed it would be put in prior to the repaving of Lincoln Place. I advised Mr. Stanley that I would turn my attention to this part of the general problem and this I have done and find that the existing sewer in Lincoln Place is inadequate to meet the prospective and probable growth in the district now served by this sewer and that it will be necessary to replace the existing 18" sewer with a 30" conduit.

"It is not essential to relay this line on Lincoln Place if satisfactory arrangements can be made with private owners to lay the supplementary sewer along the bank of the Elizabeth River. There are few unfavorable physical conditions to be overcome in constructing this sewer along the River between Springfield Avenue and Lyons Ave., and normally there should be no difficulty in securing an economic right-of-way. If this can be done the question of replacement of the sewer in Lincoln Place prior to the construction of the paving can be avoided. It is my intention to cooperate with Mr. Stanley and the Engineer of Irvington in an effort to procure an economic right-of-way for a supplementary sewer between the points mentioned so as to avoid the immediate consideration of the cost of a supplementary sewer in Lincoln Place.

"Respectfully submitted,

"ALEXANDER POTTER."

After reading his report Mr. Potter made a verbal statement regarding his conference with Mr. Riker on the Union Township contract, after which the Secretary read the proposed contract.

At the suggestion of the Chairman the matter was laid over temporarily until the other business was disposed of.

The Treasurer being unavoidably absent, his report was read by the Secretary.

"TO THE VARIOUS MUNICIPALITIES COMPRISING THE JOINT
"SEWER MEETING,
"GENTLEMEN:

"The Treasurer respectfully reports that on March 10th, 1922, the date of his last report, he had on deposit in the Orange National Bank the sum of $4,189.45, with Warrant 2907 for $83.33 outstanding, so that the total amount of cash on hand on said date was the sum of $4,106.12.

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank the sum of $1,800 and has been allowed $10.05 interest, making a total of $5,916.17, as shown on Schedule 1, hereto annexed.

"The Treasurer further reports that since the date of his last report, he has executed warrants, as shown on Schedule 2, hereto annexed, amounting to $547.07, so that the total amount of cash on hand on the date of this report is the sum of $5,369.10. All warrants executed have been presented for payment, so that the Treasurer now has on deposit in the Orange National Bank the said sum of $5,369.10.

"All of which is respectfully submitted this 20th day of April, 1922.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1922				
Mar.	11	Balance	$4,106.12	
"	18	Irvington	600.00	
Apr.	5	Irvington	300.00	
"	5	Irvington	300.00	
Mar.	30	Interest	10.05	
Apr.	18	West Orange	600.00	
				$5,916.17

SCHEDULE 2.

1922				
Mar.	10	J. G. Krueger Adv. Agency	$12.00	
"	10	J. J. Keating	4.08	
"	31	Alexander Potter	83.33	
"	31	S. H. Rollinson	62.50	
"	31	C. W. Sandford	200.00	
"	31	J. J. Keating	150.00	
"	31	E. S. Rankin	35.16	
				547.07
		Cash on hand		$5,369.10

On motion the report was received and ordered printed.

The following resolution was offered and on motion passed, 4 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2,100, which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i.e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 20th day of April, 1922.

"This is the assessment for the 2nd quarter of 1922."

The matter of the proposed contract was then taken up and after a long discussion the Chair appointed Messrs. Pringle and Van Duyne as a committee to consult with the Counsel and Engineer and report back at the next meeting.

The question of the paving of Lincoln Place, Irvington, and the enlarging of the Joint Trunk Sewer at that point was left to the Engineer and Mr. Casey to settle.

Mr. Potter stated that he had consulted Mr. Riker regarding the question raised in his report at the last meeting as to the raising of manholes, where property owners had filled over them and that Counsel's opinion was that the owners must pay the cost of the work.

At Mr. Potter's request the Secretary was authorized to draw a warrant for $1,000 on account of the work done on his report on the enlargement of the Joint Sewer, against the Special Assessment raised in accordance with the resolution passed Dec. 22, 1921. This and the following bills were ordered paid after being approved by the Finance Committee, 4 ayes, no noes.

Alexander Potter, March salary	$ 83.33
S. H. Rollinson, Jan., Feb., Mar. salary	62.50
C. W. Sandford, March salary	200.00
J. J. Keating, March salary	150.00
E. S. Rankin, March salary and office	35.16
Alex. Potter, April salary	83.33
C. W. Sandford, April salary	200.00
J. J. Keating, April salary	150.00
E. S. Rankin, April salary and office	35.16
Weibezahl Print, Printing Minutes	14.25
N. Y. Telephone Co., service	27.47
Wm. P. Coe, Liability Insurance	92.05
Alex. Potter, on account surveys	250.00
C. W. Sandford, expense account	3.80
C. W. Sandford, auto expenses	26.85
E. S. Rankin, Sec'y, Petty Cash	20.00
	$1,433.90

On motion the meeting adjourned at 9:35 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 1, 1922.

The regular annual June meeting was held on the above date at the South Orange Village Hall at 8 P. M.

There were present Francis Speir, Chairman; Wellington Campbell, Millburn; H. J. Stanley, Irvington; H. R. Van Duyne, Newark; Graham King, South Orange and E. G. Pringle, Summit.

The Engineer and his assistant Mr. Bogart, the Inspectors and Engineer Casey of Irvington were also present.

The minutes of the previous meeting were approved as printed.

Engineer Potter presented his regular report which on motion was received and ordered printed.

"June 1st, 1922.

"Joint Meeting,

"So. Orange Village, N. J.

"Gentlemen:—

"While I am submitting at this meeting for your consideration the general conclusions in connection with the investigation for providing additional capacity to the Joint Trunk Sewer, the final report could not be submitted in full at this time.

"I am submitting herewith, however, a substantial part of the report containing recommendations which should form a basis of study for the members of the Joint Trunk Sewer.

"Since the last meeting, the Joint Trunk Sewer has been functioning without any unusual trouble and during the last two heavy storms the increase in flow usually found in the West Orange-Orange line has not been so troublesome as on former occasions.

"The Chief Inspector reports that a cave-in occurred over the Joint Trunk Sewer on Millburn Avenue which had all the evidences of being caused by a break of the Joint Trunk Sewer. Digging down to the sewer at the point of the break in the street, no evidence of a broken sewer could be discovered.

"The Inspector notified the County engineers who sent two of their assistant engineers to examine the pipe while it was exposed. Their conclusion was that the break was not due to the presence of the Joint Trunk Sewer in the street. There

is, however, an underdrain from the sewer to the county culvert draining into the Campbell property about one hundred feet east of the Short Hills Road, the outlet of which sometimes becomes clogged. A further investigation will be necessary to see if this underdrain is in any way responsible for the trouble in the street.

"The Inspector reports that he purchased two manhole lids from Maher and Flockhardt to replace one on Jefferson Avenue and one on Lyons Avenue. It is quite probable that five additional covers might be needed due to the heavy trucking and I would recommend that the Inspector be authorized to purchase five additional covers as he needs them.

"Recently when reading the meter on Lyons Avenue, the Inspector discovered a flow in the sewer which evidently did not originate from any of the houses connected with the sewer. Upon investigation, it was discovered that water came from a street inlet at the corner of Wainwright Street and Lyons Avenue, about three blocks back in Newark from the terminus of the Joint Trunk Sewer.

"Flushing of the hydrants by the Water Department was the immediate cause of the improper discharge. During storm this could not be readily detected and it was simply a chance that it was discovered when it was. The Inspector is of the opinion that this catch-basin has been connected up to the Joint Trunk Sewer for a number of years and is unquestionably responsible for the almost unexplainable flows from the line of that district during storm periods.

"When the attention of Mr. Rankin, Sewer Engineer of Newark, was called to this condition it was promptly remedied. I have suggested to the Chief Inspector that he arrange with the Newark authorities to have the hydrants flushed near all catch basins within that portion of the City of Newark which drains towards the Joint Trunk Sewer so that observations can be made with the hope of detecting similar conditions in other parts of the district which might result in reducing flows in the Joint Trunk Sewer.

"Respectfully submitted,

"Alexander Potter."

AP/BS

The recommendation regarding the purchase of manhole covers was approved, 5 ayes, no noes.

The recommendation regarding an investigation of the Newark flow was approved and the Inspector directed to take the matter up with the Newark authorities.

Mr. Potter stated that his report on the enlargement of the Joint Sewer was practically complete but not ready for formal presentation. He described at some length the investigations that had been made, quoting from tables of estimated population and flow to be expected from the several towns in 1950. Diagrams and maps showing the various lines and projects which had been considered were exhibited. After further discussion it was moved that on the completion of the report the Secretary be directed to have 300 copies printed. Carried 5 ayes, no noes.

Mr. Rollinson being absent, his report was read by the Secretary.

"To the Various Municipalities Comprising the Joint Sewer Meeting.

"Gentlemen:—

"The Treasurer respectfully reports that on April 20th, 1922, the date of his last report, he had on deposit in the Orange National Bank, the sum of $4,769.10, with no warrants outstanding.

"The Treasurer further reports that since the date of his last report, he had deposited in the Orange National Bank the sum of $2100, as shown on Schedule I hereunto annexed, making a total of $6,869.10.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2 hereunto annexed, amounting to $2,653.21, so that the total amount of cash on hand on the date of this report is the sum of $4,215.89. Warrants 2930 to 2934 inclusive, aggregating $750.30 are now outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $4,966.19.

"All of which is respectfully submitted this 1st day of June, 1922.

"Simeon H. Rollinson,
"Treasurer."

Schedule 1.

1922		
Apr. 20	Balance	$4,769.10
" 12	West Orange	600.00
" 17	South Orange	300.00
May 1	Millburn	300.00
" 3	West Orange	300.00
" 17	Newark	600.00
		$6,869.10

SCHEDULE 2.

1922		
Apr. 21	Weibezahl Print	$14.25
" 21	N. Y. Telephone Co	27.47
" 21	William P. Coe	92.05
" 21	Alexander Potter	250.00
" 21	C. W. Sandford	3.80
" 21	C. W. Sandford	26.85
" 21	E. S. Rankin, Sec'y	20.00
" 21	Alexander Potter	1,000.00
" 29	Alexander Potter	83.33
" 29	C. W. Sandford	200.00
" 29	J. J. Keating	150.00
" 29	E. S. Rankin	35.16
May 19	Alexander Potter	281.81
" 29	Alexander Potter	83.33
" 29	C. W. Sandford	200.00
" 29	J. J. Keating	150.00
" 29	E. S. Rankin	35.16
		2,653.21

Cash on hand $4,215.89

On motion the report was received and ordered printed.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 4 ayes, no noes:

Alex. Potter, May salary	$83.33
C. W. Sandford, May salary	200.00
J. J. Keating, May salary	150.00
E. S. Rankin, May salary and office	35.16
Alex. Potter, Report on account	1,000.00
Flockhart Foundry Co., Manhole covers	9.00
Weibezahl Print, Printing Minutes	6.00
Adrian Riker, Legal Services	50.00
Francis Speir, Executive Committee	15.00
Wellington Campbell, Executive Committee	25.00
E. G. Pringle, Executive Committee	25.00
H. J. Stanley, Executive Committee	10.00
H. R. Van Duyne, Executive Committee	25.00
D. W. Richards, Executive Committee	20.00
W. D. Van Riper, Executive Committee	5.00

Graham King, Executive Committee.....	5.00
I. J. Casey, Executive Committee.....	5.00
E. S. Rankin, Sec'y, Petty Cash.....	32.00
C. W. Sandford, Auto Expense.....	16.90
	$1,717.39

The annual election of officers was then held and the following gentlemen unanimously elected:

Francis Speir	Chairman,
Wellington Campbell	Vice Chairman,
Alexander Potter	Engineer,
Simeon H. Rollinson	Treasurer,
Adrian Riker	Counsel,
Edward S. Rankin	Secretary,
Corey W. Sandford	Chief Inspector,
John J. Keating	Ass't Inspector,

It was decided to hold the Annual Inspection on Thursday, June 22, 1922, and the Secretary was directed to so notify the members.

On motion the meeting adjourned at 10:10 P. M.

Edward S. Rankin,
Secretary.

Annual Inspection.

June 22, 1922.

The annual inspection of the Joint Sewer was made on the above date, the party leaving the Newark City Hall at 9.45 A. M.

Those present were Francis Speir, Wellington Campbell, H. J. Stanley, H. R. Van Duyne and Graham King of the Commission, with Engineer Potter, Inspectors Sandford and Keating and the Secretary. Messrs. I. J. Casey, M. R. Fitzsimmons and James Alden also accompanied the party.

The outlet at the foot of Bayway was first visited after which an inspection was made of the site of the proposed disposal works. From here the route proposed by the Engineer for the new sewer was followed to the junction of the 3rd and 5th

sections. From this point some of the new pavements in Irvington and also the storm water sewer recently constructed were examined, after which the party proceeded to the residence of the Chairman where they were joined by Mr. Wm. T. Hunt, President of South Orange. The interior decorations were much admired.

The next stop was at the Orange Lawn Tennis Club where the party was entertained at luncheon by the Chairman.

Following the luncheon a vote of thanks was tendered to the Chairman for his hospitality after which the following resolution was presented and adopted; 4 ayes no noes:

"Resolved: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2100, which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"Resolved: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 22nd day of June, 1922.

"This is the assessment for the 3rd quarter of 1922."

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee. 4 ayes, no noes.

Alexander Potter, 2nd payment on account of report	$1,000.00
John R. Franke, auto insurance	108.75
Alex. Potter, June salary	83.33
S. H. Rollinson, April, May, June salary	62.50
C. W. Sandford, June salary	200.00
J. J. Keating, June salary	150.00
E. S. Rankin, June salary and office	35.16
	$1,639.74

Mr. Potter stated that Union Township was not willing to accept the proposed contract and would proceed with their work under the original agreement.

Leaving the club house an inspection was made of the Venturi meter and the junction of the Orange sewer after which the deep manhole at the tunnel was visited.

This completed the trip and the party separated at 4:30 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of August 3, 1922.

A regular meeting of the Joint Meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Those present were Francis Speir, Chairman; Wellington Campbell, Millburn; H. J. Stanley, Irvington; H. R. Van Duyne, Newark; Graham King, South Orange and E. G. Pringle, Summit, together with the Treasurer and Inspectors. Mr. Potter being absent from the City was represented by his assistant, Mr. Bogart. Mr. W. F. Topping, President of the Summit Common Council and Mr. Henry Kreh, Engineer of Union Township were also present.

The minutes of the last meeting were approved as printed.

The Secretary read the report of the Engineer.

"August 3rd, 1922.

"THE JOINT MEETING,

"South Orange Village, N. J.

"GENTLEMEN:—

"As previously reported, the Township of Union did not see their way clear to accept the suggestions made by the Committee in regard to the modifications of the contract. They therefore submitted a direct application for permission to exercise their right under the contract for the 375,000 gallons called for by said contract.

"In this application they request the privilege of paying for this entire quantity in one payment. They specifically request the right to connect 10-inch pipes with the Joint Sewer at three different points, namely Springfield Avenue, Liberty Avenue, and Burnett Avenue.

"I have gone over the plans and specifications prepared by the Township Engineer and find that they provide for the greatest possible care in the construction of the sewer. If they succeed in getting a reputable contractor to construct the work, I believe that the sewers can be constructed with adequate provisions for making tight the connections that are likely to be made to the sewer. I have not yet decided upon the details of a connection and measuring device that will at once give accurate gaugings of the flow and at the same time throttle any excess flow. The experience in other cities using such a contrivance for the throttling of such small flows has not proved eminently satisfactory.

"The Engineer of Union Township is desirous of getting the permission of the Joint Meeting for the right to connect to the Joint Sewer at the points mentioned above before letting the contract. Bids have already been received for this work and the

letting of the contract awaits the action of the Joint Meeting.

"I would recommend that in granting permission to Union Township to connect at the points mentioned, that the permission is given subject to the installation of a proper regulating and measuring device at each of the connections, to be approved by the Engineer of the Joint Meeting.

"There are three applications for sewer connections in South Orange Township: (1) Nelson's garage; (2) Gardner's house (private) and (3) Maplewood Club. The last-named wish to change their connection from Baker Street directly to the Joint Sewer.

"The connection to the Paris property on Morris Avenue has been made to Section 2 across a right-of-way through the Stiles property. This connection was made in the presence of your inspectors and to their satisfaction.

"The first manhole below the former entry-point of the Lyons Avenue tributary which occasionally is overflowed was the subject of complaint from new residents of the neighborhood which is rapidly developing. To lessen any annoyance on this score, the top of the manhole has been modified by the Joint Meeting to divert any overflow directly to the water-course.

"The manholes situated in the public dump north of Chancellor Avenue, have not been built up by the parties responsible for their covering up, and until this is done their usefulness for the Joint Sewer is nil.

"Despite the wet weather in June and July, there has not been a great deal of complaint from the overflowing of manholes in Sections 4 and 5.

"On June 30th, the truck was struck by a United States mail truck, while standing at the curb on South Orange Avenue, where the inspectors were reading meter No. 5/87. The cost of repairs has been $34.00. Postmaster Bock of Newark was interviewed by Mr. Sandford, and held out little hope of the Joint Meeting being reimbursed. $108.00 a year is paid in insurance premiums; unfortunately collision insurance has never been taken out on this truck. Fortunately this accident involved only minor repairs. When it is considered that this truck daily moves through regions of congested traffic, it is a matter of thought as to whether or not more complete insurance should be placed on the car.

"The report on additional sewerage facilities for the Joint Meeting is now being typed in final shape for the printer.

"Respectfully submitted,

"ALEXANDER POTTER."

On motion the report was received and ordered printed.

The Secretary read the following communication from Union Township:

"To the Honorable, The Joint Meeting, the
"Chairman and Representatives thereof:

"Your petitioner, the Township of Union in the County of Union, presents the following facts:

"Recently within the Township of Union there was created under the Statute a District known as Sewerage District No. 1. By agreement between the Township and your Honorable Body the Township is entitled to capacity in the Joint Trunk Sewer, as follows:—

Upon no payment.....The sum of 150,000 gallons per diem.
Upon payment of $900.....The sum of 50,000 gallons per diem.
Upon payment of another $900
The sum of 100,000 gallons per diem.
Upon payment of $700.....The sum of 75,000 gallons per diem.

"It is the intention of the Township by contract to allot of its capacity the amount of 200,000 gallons or more per diem to the said District, which District is governed by three commissioners, the personnel of such commission, under the statute, being the same as the personnel of the Township Committee and it is its further desire to receive its full capacity of 375,000 gallons daily now and to pay your body the consideration therefor, namely, $2,500.

"This intended contract will in no way alter the contractual relations now existing between your body and Union Township, that is to say, there will be no contractual relations between you and the District.

"It is the intention of Union Township to insist in its agreement with the District that the specifications for the construction of the sewer shall provide for the most rigid precaution for the elimination of ground water both from the street mains and the house laterals.

"Permission is requested for the right to connect lateral sewers at the following points:

"A ten inch pipe in the manhole at or near the intersection of the Joint Trunk Sewer and the Seven Bridges Road.

"A ten inch pipe in the manhole at the intersection of the Joint Trunk Sewer with Liberty Avenue.

"A ten inch connection in the manhole at or near Burnett Avenue.

"Chairman of the Township Committee
"of the Township of Union,
"W. W. Friberger,
"Township Clerk."

Mr. Kreh made a further explanation of what was desired by Union Township, stating that bids for the work had been received, and the award of the contract and payment for the privilege of connecting were only awaiting the action to be taken at this meeting. He also stated that it was understood that measuring devices would be installed by Union Township when the best design had been decided upon.

After the Chairman had made an explanation of the position of the Joint Meeting in the matter, Mr. Pringle presented the following resolution which on roll call was adopted, 5 ayes, no noes.

Resolved that permission be granted to the Township of Union to connect with the Joint Sewer in the manhole at or near the intersection of the Joint Trunk Sewer and the Seven Bridges Road, and in the manhole at the intersection of the Joint Trunk Sewer and Liberty Avenue and in the manhole of the Joint Trunk Sewer at or near Burnett Avenue, with 10 inch connections at each such point, as requested, and in accordance with existing contract, subject to building and installing at each of said connections, by said Township of Union, of measuring and throttling devices as approved by the Engineer of the Joint Meeting and upon the payment to the Joint Meeting of the sum of $2,500 for the full capacity contracted for of 375,000 gallons daily.

And Be It Further resolved, that the Secretary be directed to send to the Clerk of Union Township a certified copy of this resolution.

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint
"Sewer Meeting:—
"Gentlemen:—

"The Treasurer respectfully reports that on June 1st, 1922, the date of his last report, he had on deposit in the Orange National Bank, the sum of $4,966.19 with warrants aggregating $750.30 outstanding, so that the total amount of cash on hand on the date of his last report was the sum of $4,215.89.

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank the sum of $2,410 and has been allowed interest amounting to $23.34, making a total of $6,649.23 as shown on Schedule 1 hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2 hereunto annexed, amounting to $2,357.13, so that the total amount of cash on hand on the date of his report is $4,292.10; Warrant 2958 for $150 is now outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $4,442.10.

"All of which is respectfully submitted this 3rd day of August, 1922.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE 1.

1922			
June	1	Balance	$4,215.89
May	22	Tap Fees	10.00
July	5	Summit	300.00
"	6	Summit	300.00
"	7	West Orange	300.00
"	10	Millburn	300.00
"	19	Irvington	300.00
"	19	Newark	600.00
"	17	South Orange	300.00
		Interest	23.34
			$6,649.23

SCHEDULE 2.

1922			
June	4	Flockhart Foundry	$9.00
"	2	Weibezahl Print	6.00
"	2	Adrian Riker	50.00
"	2	Francis Speir	15.00
"	2	Wellington Campbell	25.00
"	2	E. G. Pringle	25.00
"	2	H. J. Stanley	10.00
"	2	H. R. Van Duyne	25.00
"	2	D. W. Richards	20.00
"	2	W. D. Van Riper	5.00
"	2	Graham King	5.00
"	2	I. J. Casey	5.00
"	2	E. S. Rankin, Sec'y	32.00
"	2	C. W. Sandford	16.90
"	2	Alexander Potter	1,000.00
"	23	Alexander Potter	83.33
"	23	S. H. Rollinson	62.50
"	23	C. W. Sandford	200.00
"	23	J. J. Keating	150.00

"	23	E. S. Rankin	35.16	
"	23	John R. Franke	108.75	
July	31	Alexander Potter	83.33	
"	31	C. W. Sandford	200.00	
"	31	J. J. Keating	150.00	
"	31	E. S. Rankin	35.16	
				$2,357.13

Cash on hand.....$4,292.10

The following bills were read and on motion ordered paid after being approved by the Auditing Committee, 5 ayes, no noes.

Alexander Potter, July salary	$83.33
C. W. Sandford, July salary	200.00
J. J. Keating, July salary	150.00
E. S. Rankin, July salary and office	35.16
Adrian Riker, legal advice and retainer	275.00
Weibezahl Print, printing minutes	9.50
N. Y. Telephone Co., Telephone service	27.49
Wm. P. Coe, additional premium, liability insurance	23.10
C. W. Sandford, auto expenses	72.61
C. W. Sandford, expense account	2.21
J. J. Keating, expense account	5.23
E. S. Rankin, Secretary, petty cash	44.00
	$927.63

The matter of additional insurance on the truck was then discussed and it was decided not to take out a collision policy but to increase the liability from $5,000-$10,000 to $10,000-$20,000. A motion to this effect was passed, 5 ayes, no noes.

On motion adjourned at 8:50 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of October 19, 1922.

A regular meeting of the Joint Meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Those present were Francis Speir, Chairman; Wellington Campbell, Millburn; H. J. Stanley, Irvington; E. G. Pringle, Summit, and Graham King, South Orange. The Engineer, Treasurer and Inspectors were also present.

The minutes of the last meeting were approved as printed.

Engineer Potter presented the following report which on motion was accepted and ordered printed:

"October 19th, 1922.

"The Joint Meeting,
South Orange Village,
State of New Jersey.

"Gentlemen:—

"I regret to advise the Joint Meeting that on account of the serious illness of my principal assistant since the first of August, I have been delayed in the completion of the Joint Sewer Report and Recommendations, which were authorized to be printed at the last session of the Joint Meeting. I trust that this matter will be ready for the next session of the Joint Meeting.

"In the meantime, the Town of Hillside is making direct negotiations with the City of Elizabeth for an independent outlet to tide-water, so that we cannot count upon their co-operation in this matter. The City of Elizabeth, through its Engineer, has expressed itself as being opposed to the construction of the large sewer down through the center of the City. Therefore, under these circumstances, the most economical line for us to adopt is one that follows substantially along the route of the existing Joint Sewer.

"Since the last meeting, there have been no untoward conditions arising in the Joint Sewer other than complaints of odors along certain parts of the Joint Sewer. These complaints have been investigated by the Inspector of the Joint Meeting, with the following results.

"A complaint in connection with the sewer on Brookdale Avenue was investigated and no cause for any complaint against the sewer was discovered. There was, how-

ever, a pronounced odor coming from the old brook east of Brookdale Avenue, due to the fact that the householders along the brook were depositing garbage and refuse over the back fences. The Health Officer of Newark afterwards investigated this trouble and confirmed the judgment of the engineer as to its origin in a report which was published in the Newark Evening News.

"We have again had a complaint from Mrs. Kent on Augusta Street, because of odors given off from the vent pipe, permission to construct which was given a number of years ago. At that time, instead of granting permission to extend the vent pipe well up above the top of her house, she sealed the vent pipe by tying a cloth over it. She has at last given her consent to extend the vent pipe to the desired height which we believe will afford her relief.

"Another complaint has come in through Health Officer Clickenger, 129 Augusta Street, concerning odors arising from the manhole in the Street. The manhole in question is covered up with stones and bricks to the extent of several inches which would preclude any probability of odors arising from the manhole and an inspection made by the Chief Inspector on several occasions did not disclose any odors arising from this source.

"There has been no overflowing of the sewers since the last meeting.

"Three additional connections have been made to the sewer by outside municipalities. One in Springfield and two in South Orange Township.

"The Inspector with the consent of the Engineer has purchased two additional covers to replace broken ones on Bayway, the bills for which were mailed directly to the Secretary.

"I enclose a bill on account of services in connection with the sewer investigation for $1,000.00.

"Respectfully submitted,

"ALEXANDER POTTER."

Mr. Potter verbally explained at some length further matters relating to his report after which the report of the Treasurer was presented:

"To the Various Municipalities Comprising the Joint Sewer Meeting.

"Gentlemen:

"The Treasurer respectfully reports that on August

3rd, 1922, the date of his last report, he had on deposit in the Orange National Bank, the sum of $4,442.10, with one warrant for $150. outstanding, so that the total amount of cash on hand on the date of his last report was the sum of $4,292.10.

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank, the sum of $40. and has been allowed interest amounting to $23.96, as shown on Schedule I hereunto annexed, making a total of $4,356.06.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II, hereunto annexed, amounting to $1,458.62, so that the total amount of cash on hand on the date of this report is the sum of $2,897.44; Warrant 2973, for $62.50 is still outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $2,959.94.

"All of which is respectfully submitted this 19th day of October, 1922.

SIMEON H. ROLLINSON,
Treasurer.

SCHEDULE I.

1922.		
Aug. 3	Balance	$4,292.10
" 12	Maplewood Country Club (tap fee)	10.00
Sept. 25	Tap fee in Springfield	10.00
Aug. 3	Tap fee in South Orange	10.00
" 3	Tap fee Randolph Gardener	10.00
Sept. 30	Interest	23.96
		$4,356.06

SCHEDULE II.

1922.		
Aug. 4	Adrian Riker	$275.00
" 4	Weibezahl Print	9.50
" 4	N. Y. Telephone Co.	27.49
" 4	William P. Coe	23.10
" 4	C. W. Sandford	72.61
" 4	C. W. Sandford	2.21
" 4	J. J. Keating	5.23

"	4	E. S. Rankin, Secty.	44.00
"	31	Alexander Potter	83.33
"	31	C. W. Sandford	200.00
"	31	J. J. Keating	150.00
"	31	E. S. Rankin	35.16
Sept.	29	Alexander Potter	83.33
"	29	S. H. Rollinson	62.50
"	29	C. W. Sandford	200.00
"	29	J. J. Keating	150.00
"	29	E. S. Rankin	35.16
			$1,458.62
Cash on hand			$2,897.44

On motion the report was received and ordered printed.

The following resolution was then read and on roll call adopted, 4 ayes; no noes:

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2100. which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proproportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 19th day of October, 1922.

"This is the assessment for the 4th quarter of 1922."

The Secretary reported that he had consulted Mr. Riker regarding the division of the money to be received from Union Township and that Mr. Riker had advised that it should be divided in accordance with the percentage which each municipality owned in the Joint Trunk Sewer which percentage and amount is shown in the following table:

Summit	20.13%	$ 503.25
Newark	20.30%	507.50
Irvington	16.06%	401.50
West Orange	16.80%	420.00
South Orange	16.29%	407.25
Millburn	10.42%	260.50
	100. %	$2500.00

The following bills were read and on motion ordered paid after being approved by the Auditing Committee; 4 ayes; no noes:

Alex. Potter, August salary	$ 83.33
C. W. Sandford, August salary	200.00
J. J. Keating, August salary	150.00
E. S. Rankin, August salary and office	35.16
Alex. Potter, September salary	83.33
S. H. Rollinson, July, August and September salary	62.50
C. W. Sandford, September salary	200.00
J. J. Keating, September salary	150.00
E. S. Rankin, September salary and office	35.16
Alex. Potter, on account of report	1,000.00
Weibezahl Print, printing minutes	9.50
American Surety Co., Treasurer's Bond	20.00
N. Y. Telephone Co., telephone service	24.79
Flockhard Foundry Co., manholes covers	11.00
C. W. Sandford, auto. expenses	35.10
E. S. Rankin, expense account	1.60
E. S. Rankin, Secretary, petty cash	52.00
	$2,153.47

Mr. Stanley invited the members and officers of the Joint Meeting to inspect the large storm water sewer now being constructed in Irvington. The invitation was accepted and it was decided to meet at the Irvington Town Hall on Saturday morning, October 28th, at 9 o'clock.

On motion adjourned at 9 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of December 28, 1922.

The regular December meeting of the Joint Meeting was held in the South Orange Village Hall at 8 P. M., on the above date.

There were present Francis Speir, Chairman; Wellington Campbell, Millburn; H. J. Stanley, Irvington; H. R. Van Duyne, Newark; Graham King, South Orange; E. G. Pringle, Summit and F. A. O'Connor, West Orange. The Engineer, Treasurer and Inspectors were also present, together with Engineer Casey of Irvington.

The minutes of the last meeting were approved as printed.

Engineer Potter presented the following report:

"December 28, 1922.

"The Joint Meeting,
South Orange, N. J.

"Gentlemen:

"I submit herewith copies of the printed report. The printing of this report has been a task of greater magnitude than I anticipated when the report was first ordered printed.

"Unfortunately, the law provides that the work should be let to the lowest bidder and the Secretary had no reason to believe that the printer could not turn out satisfactory work.

"The printed tables are particularly slovenly, as note pages 25, 33, 36, etcetera.

"I quote from the letter of transmittal as follows:

> "'To the Governing Bodies of the
> Municipalities forming the Joint Meeting, viz:
> Newark, Summit, Irvington, West Orange,
> Millburn and the Village of South Orange
> New Jersey.
>
> "'Gentlemen:—
>
> "'Pursuant to the authorization of the Joint Meeting, I submit herewith a report upon and recommendations for the best method of providing additional sewerage facilities for the municipalities now being sewered by the Joint Sewer. The frontispiece indicates the political subdivisions of the territory discussed in this report.
>
> "'This report should be followed by immediate steps looking toward the early construction of the relief which

is urgently needed by many of the municipalities. No one at all cognizant with the overloaded condition of the existing Joint Sewer in times of storm will question this. At least eighteen (18) months must be allowed for the construction period of the relief sewer; and many months will probably be taken up in securing the empowering legislation from the various municipalities interested. During this interval, the overloaded conditions of the sewer will continue to become worse at the rate of at least five per cent. per year.

"'Throughout this report, the unit of measurement for sewage flow is the number of millions of gallons per day. For brevity, the symbol "mgd" is used to express this quantity.

"'A digest of the report follows it, to outline briefly its essential features for more ready perusal.

"'Respectfully submitted,

"'ALEXANDER POTTER.

"'NOTE: Before the proofs of this report came from the printer, the name of South Orange Township was officially changed to Maplewood. To avoid misunderstanding, we have used the double designation: South Orange Township (Maplewood).'

"To facilitate the reading of the report, it was thought advisable to start with a chapter covering the scope of the report and giving a summary of conclusions.

"A digest of the report follows the main body of the report itself, the digest being followed by a resumé and recommendation.

"In regard to the question of cost for the various alternate methods of providing relief, a summary has been prepared in the form of Table Y, showing the estimated cost to the various municipalities for the various combinations of towns which might be jointly interested in this project.

"Care has been taken to show the additional cost of providing increased sewerage facilities for the basic members of the Joint Outlet Sewer alone. Comparisons can be made of the cost to these basic communities with the cost to them of combining with one or more other communities, who are willing or may be induced to join in the construction of a supplementary sewer.

"I would appreciate very much a check for the balance due under this agreement.

"I have had already so many requests for copies of this report from engineers and others, that I have taken the

liberty of ordering 100 additional copies. The additional cost to me in connection with the printing of these reports has been at least four times the excess cost of these 100 copies and I feel that the request for the additional 100 copies for distribution among engineers is a proper one.

"Respectfully submitted,

"ALEXANDER POTTER."

He then explained more in detail several features of the printed report after which a general discussion of the subject followed. The report was then on motion received and ordered filed.

The Secretary made a statement regarding the printing of the report saying that in accordance with instructions he had advertised for bids and had received four, ranging from $591.00 to $828.00, based on the estimated number of pages in the report. The contract had then been awarded to the Cozzolino Printing Company, the lowest bidder. He also suggested that as there would probably be some question in regard to extras in the printer's bill, that a member of the Joint Meeting be appointed, together with the Secretary and Engineer, to pass on the bill. In accordance with this suggestion, the Chair appointed Mr. Stanley.

The Secretary was instructed to deliver 20 copies of the report to each of the Municipalities and 2 copies to the public library of each town.

The report of the Treasurer was then read and on motion received and ordered printed.

"TO THE VARIOUS MUNICIPALITIES COMPRISING THE JOINT SEWER MEETING:

"Gentlemen:

"The Treasurer respectfully reports that on October 19th, 1922, the date of his last report, he had on deposit in the Orange National Bank, the sum of $2,959.94, with one warrant for $62.50 outstanding, so that the total amount of cash on hand on the date of said last report, was the sum of $2,897.44.

"The Treasurer further reports that since the date of his last report, he has deposited in the Orange National Bank the sum of $2,120, as shown on Schedule I. hereunto annexed, making a total of $5,017.44.

"The Treasurer further reports that since the date of his last report, he has executed warrants. as shown on Schedule II, hereunto annexed, amounting to $2,090.97 and all warrants issued have been presented for payment.

"The total amount of cash on hand on the date of this report is the sum of $2,926.47, which said sum the Treasurer has on deposit in the Orange National Bank.

"All of which is respectfully submitted this 28th day of December, 1922.

"SIMEON H. ROLLINSON,
"Treasurer.

SCHEDULE I.

1922.			
Oct. 19	Balance	$2,897.44	
" 3	Irvington	300.00	
" 18	Tap fee	10.00	
" 26	West Orange	300.00	
" 30	Millburn	300.00	
Nov. 3	Tap fee	10.00	
" 9	Summit	300.00	
" 20	South Orange	300.00	
" 21	Newark	600.00	
			$5,017.44

SCHEDULE II.

1922			
Oct. 20	Weibezahl Print	$ 9.50	
" 20	American Surety Co.	20.00	
" 20	New York Telephone Co.	24.79	
" 20	Flockhart Foundry Co.	11.00	
" 20	C. W. Sandford	35.10	
" 20	E. S. Rankin	1.60	
" 20	E. S. Rankin, Sec'y	52.00	
" 20	Alexander Potter	1,000.00	
" 30	Alexander Potter	83.33	
" 30	C. W. Sandford	200.00	
" 30	J. J. Keating	150.00	
" 30	E. S. Rankin	35.16	
Nov. 29	Alexander Potter	83.33	
" 29	C. W. Sandford	200.00	
" 29	J. J. Keating	150.00	
" 29	E. S. Rankin	35.16	
			2,090.97
	Cash on hand		$2,926.47"

The Secretary made a statement of the receipts and expenditures for the past year and presented the following resolution which, on motion was adopted, 6 ayes, no noes.

"WHEREAS, in accordance with Chapter 175 of the State Laws of 1919, the Joint Meeting shall before the first day of December in each year make an estimate of and determine the cost and expense of maintaining and operating such public improvements for the year beginning the first day of January then next, and shall cause the same to be certified by the Secretary of the Joint Meeting to each of the municipalities contracting for said improvements;

"THEREFORE BE IT RESOLVED, That the Joint Meeting hereby estimates and determines the cost and expense of maintaining and operating the Joint Outlet Trunk Sewer for the year beginning January 1, 1923, to be the sum of $8,400.00, and the Secretary is hereby directed to mail a copy of this resolution to each of the municipalities represented in the Joint Meeting.

By a vote of 6 ayes, no noes, the Secretary was directed to have sent to him the Bills of the Incoming Legislature, the cost being $10.00.

The Chairman appointed Messrs. Van Duyne and Stanley as a Legislative Committee.

On motion the Secretary was directed to have an audit of the Secretary's and Treasurer's books made, no audit having been made for two years, at a cost not to exceed $125.00. 6 ayes, no noes.

The following bills were then read, and on motion ordered paid, after being approved by the Auditing Committee.

Alex. Potter, October salary	$ 83.33
C. W. Sandford, October salary	200.00
J. J. Keating, October salary	150.00
E. S. Rankin, October salary and office	35.16
Alex. Potter, November salary	83.33
C. W. Sandford, November salary	200.00
J. J. Keating, November salary	150.00
E. S. Rankin, November salary and office	35.16
Alex. Potter, December salary	83.37

C. W. Sandford, December salary	200.00
J. J. Keating, December salary	150.00
E. S. Rankin, December salary and office	35.24
S. H. Rollinson, Oct., Nov., Dec. salary	62.50
Francis Speir, Executive Committee	20.00
Graham King, Executive Committee	20.00
H. J. Stanley, Executive Committee	20.00
Wellington Campbell, Executive Committee	20.00
H. R. Van Duyne, Executive Committee	15.00
E. G. Pringle, Executive Committee	15.00
F. A. O'Connor, Executive Committee	5.00
Weibezahl Print, Printing Minutes	8.00
Newark Star Eagle, Advertisement	1.44
Geo. B. Larney, Cleaning Rahway River	10.00
C. W. Sandford, Auto expenses	29.35
C. W. Sandford, Expense account	3.51
E. S. Rankin, Secretary, Petty cash	56.00
Alex. Potter, Balance due on report	1,200.00
	$2,891.39

It was moved and seconded, that in accordance with his request, Mr. Potter be authorized to order an additional hundred copies of the report for his own use, the cost, including diagrams, not to exceed $120.00. 6 ayes, no noes.

The Engineer reported a stoppage in the sewer on South Orange Avenue which has been attributed to the men in charge of the Newark Basin Cleaning Machine dumping sediment from the machine into a manhole of the Joint Sewer. The Secretary read a letter from the Newark Superintendent of Sewers stating that this manhole had been opened, but finding it was a sanitary sewer had been closed without using it. No action was taken.

On motion it was decided to hold the next meeting on January 25th.

On motion the meeting adjourned at 9:35 P. M.

EDWARD S. RANKIN,

Secretary.

Joint Meeting of January 25, 1923.

A regular meeting of the Joint Meeting was held on the above date at the South Orange Village Hall, at 8 P. M.

There were present Francis Speir, Chairman; Wellington Campbell, Millburn; Graham King, South Orange; E. G. Pringle, Summit; F. A. O'Connor, West Orange, and I. J. Casey, representing Irvington in the absence of Mr. Stanley. The Engineer, Treasurer and Inspectors were also present.

The minutes of the last meeting, on motion, were approved as printed.

Mr. Potter presented the following report:

"January 25, 1923.

"Joint Meeting,
S. Orange Village,
State of New Jersey.

"Gentlemen:

"There has been no important happening in connection with the Joint Sewer since the last meeting. The inspectors have relieved the condition in South Orange Avenue in the City of Newark, but they are unable to give a definite reason for the cause of the stoppage, outside of the fact that they released from the sewer a broom handle and various small sticks and other foreign material that surely could not find entrance to the sewer through any legitimate opening.

"I submit herewith an errata sheet for inclusion in the printed report submitted at the last meeting. This errata sheet does not include all of the printer's errors still existing in the report, but only those considered essential for an intelligent reading of the report.

"Respectfully submitted,
"Alexander Potter."

On motion the report was received and ordered printed and the Secretary was directed to have the errata sheet printed and inserted in the reports.

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the 28th day of December, 1922, the date of his last report, he had on deposit in the Orange National Bank, the sum of $2,926.47, with no warrants outstanding.

"The Treasurer further reports that since the date of his last report he has been allowed $11.69 interest, making the total amount of cash on hand the sum of $2,938.16 as shown on Schedule I hereto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II hereunto annexed, amounting to $1,954.41, so that the total amount of cash on hand on the date of this report is the sum of $983.75.

"Warrant No. 2998 for $20. has not been presented for payment, so that the Treasurer has on deposit in the Orange National Bank the sum of $1,003.75.

"All of which is respectfully submitted this 25th day of January, 1923.

"Simeon H. Rollinson,
"Treasurer.

SCHEDULE I.

1922			
Dec. 28	Balance	$2,926.47	
" 30	Interest	11.69	
			$2,938.16

SCHEDULE II.

1922		
Dec. 29	Alexander Potter	$ 83.37
" 29	S. H. Rollinson	62.50
" 29	C. W. Sandford	200.00
" 29	J. J. Keating	150.00
" 29	E. S. Rankin	35.24
" 29	Francis Speir	20.00
" 29	Graham King	20.00
" 29	H. J. Stanley	20.00
" 29	Wellington Campbell	20.00
" 29	H. R. Van Duyne	15.00

" 29	E. G. Pringle	15.00	
" 29	F. A. O'Connor	5.00	
" 29	Weibezahl Print	8.00	
" 29	Newark Star-Eagle	1.44	
" 29	George B. Larney	10.00	
" 29	C. W. Sandford	29.35	
" 29	C. W. Sandford	3.51	
" 29	E. S. Rankin, Sec'y	56.00	
" 29	Alexander Potter	1,200.00	
			$1,954.41
Cash on hand			$ 983.75"

The Secretary submitted bids received for auditing the books of the Secretary and Treasurer for the past two years and on motion the bid of the Federal Audit Company for $75.00 was accepted and the Secretary was directed to have the audit made by them. 4 ayes, no noes.

The Secretary presented his annual statement of receipts and expenditures for the year 1922 which on motion was received and ordered printed.

"DISTRIBUTION OF RECEIPTS.

Balance, January 1, 1922	$ 102.27
Interest	64.94
Assessments	8,400.00
Assessment arrears from 1921	300.00
Special Assessment for Survey	4,200.00
Tap fees	80.00
	$13,147.21

DISTRIBUTION OF EXPENSES.

Chief Inspector, salary	$ 2,400.00
Assistant Inspector, salary	1,800.00
Engineer, salary	1,000.00
Secretary, salary and office	422.00
Treasurer, salary	250.00
Miscellaneous	61.44
Telephone service	105.63
Printing Stationery and Minutes	103.00
Expense Accounts	30.76
Automobile Expenses	352.36

Petty Cash (labor account)	228.00
Survey	531.81
Special Survey and Report	4,200.00
Counsel, retainer and legal services	325.00
Executive Committee	250.00
Insurance	115.15
	$12,175.15
Balance on hand December 31, 1922	972.06
	$13,147.21

SECRETARY'S TRIAL BALANCE.
Dec. 31, 1922.

Cash on hand	972.06	Maintenance Acc't	$1,122.06
Petty cash	150.00		
	$1,122.06		$1,122.06"

The following resolution was presented and on motion adopted. 4 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of ,$2,100. which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 25th day of January, 1923.

"This is the assessment for the 1st quarter of 1923."

The following bills were read and on motion ordered paid after being approved by the Auditing Committee.

Alexander Potter, January salary	83.33
C. W. Sandford, January salary	200.00
J. J. Keating, January salary	150.00
E. S. Rankin, January salary and office	35.16

Weibezahl Print, printing minutes	9.50
N. Y. Telephone Co., telephone service	35.64
National Process Co., cuts for report	192.00
C. W. Sandford, auto expenses	53.05
J. J. Keating, expense account (6 months)	4.34
E. S. Rankin, petty cash	94.00
	$857.02

The matter of the bill for printing the report was taken up and after considerable discussion was laid over for further consideration.

The Chairman then called on Mr. Potter for further explanation of the Report with particular reference to the proposed meeting between Orange, South Orange and West Orange to discuss the Rahway Valley project. A general discussion followed during which Mr. Potter stated that Mr. Riker had advised that no additional legislation would be required in order to proceed with the enlargement of the Joint Sewer. It was finally moved, seconded and carried that a meeting of the Governing Bodies of the Contracting Municipalities be called to consider the Report of the Engineer and to take such action as may be necessary looking toward the enlargement of the Joint Sewer, and that the Governing Bodies of all other municipalities which might be interested in such enlargement be invited to attend. Said meeting to be held in the South Orange Village Hall on Thursday evening, March first, at 8 o'clock. The Secretary was directed to notify the several municipalities of said meeting.

On motion the meeting adjourned at 9:40 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of March 1st, 1923.

A meeting of the Joint Meeting was held on the above date at the South Orange Village Hall at 7:45 P. M. Owing to the absence of the Secretary, on account of illness, the minutes of the meeting were kept by Mr. H. J. Stanley. Those present were: Francis Speir, Chairman; H. J. Stanley, Irvington; Dr. Wellington Campbell, Millburn; E. G. Pringle, Summit; H. R. Van Duyne, Newark and F. A. O'Connor, West Orange. The Engineer, Treasurer and Inspectors were also present.

The following resolution was presented and carried—5 ayes, no noes.

> "RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2,100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i.e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further
>
> "RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the First day of March, 1923.
>
> "This is the assessment for the 2nd quarter or 1923."

After some discussion the bill of the Cozzolino Printing Company, in the amount of $1,739.10, same to include the additional hundred copies, was on motion approved and ordered paid—5 ayes, no noes.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee—5 ayes, no noes.

Alexander Potter, February salary	$ 83.33
C. W. Sandford, February salary	200.00
J. J. Keating, February salary	150.00
E. S. Rankin, February salary and office	35.16

Cozzolino Printing Co., Printing report	1,739.10
Weibezahl Print, Printing Minutes	11.00
C. W. Sandford, Auto expenses	10.70
Edward S. Rankin, Petty cash	28.00
Total	$2,257.29

On motion the meeting then adjourned.

Following the adjournment of the Joint Meeting, a general meeting of all interested municipalities was called to order by Chairman Speir.

After a brief historical talk on the Joint Sewer, Mr. Speir introduced the Engineer, Mr. Potter, who explained his studies on the enlargement of the sewer as given in detail in the report recently published, his talk being illustrated by a series of lantern slides.

After this the meeting was thrown open and a general discussion was held. The municipalities represented, in addition to those now members of the Joint Meeting, were: the Township of Hillside, Township of Maplewood, City of Orange, Borough of Roselle Park, Township of Springfield, and the Township of Union.

The meeting adjourned about 11 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of April 19, 1923.

A meeting of the Joint Meeting was held on the above date at the South Orange Village Hall at 8 p. m.

There were present Francis Speir, Chairman; Wellington Campbell, Millburn; H. J. Stanley, Irvington; Graham King, South Orange and F. A. O'Connor, West Orange; also the Engineeer. Treasurer and Inspectors.

The minutes of the last meeting were approvel as printed, after which the Engineer presented his regular report:

"April 19th, 1923.

"Joint Meeting,

"South Orange Village, N. J.

"Gentlemen:

"The report prepared at the direction of the Joint Body has been in the hands of the various municipalities a sufficient time to enable them to approach the question of additional sewerage facilities with the facts before them.

"There are three classes of municipalities interested in the enlargement of the Joint Trunk Sewer:

"1. The basic towns.

"2. Municipalities having contractual relations with the Joint Meeting at the present time.

"3. Other municipalities that in any scheme of enlargement would be interested in having the enlargement sufficient to provide for their needs.

"The immediate matter that must be taken up is the provision for additional sewerage facilities for the basic towns. Mr. Rankin has advised me that he has received a letter from the State Board of Health complaining against the pollution from the sewers both in the Rahway and Elizabeth Rivers. From the tables and data heretofore submitted, it is clear that the Joint Sewer is reaching its capacity and with knowledge that it will take several years before additional sewerage facilities can be completed, there can be no question as to the urgency of this matter.

"I, therefore, recommend special meetings be held by the various municipalities now forming the Joint Meeting for the purpose of discussing their individual needs. I shall be pleased to attend such meetings if they can be arranged so as not to conflict with other appointments.

"Information of value to individual communities can be taken up at these meetings in a more direct way than

in a Joint Meeting composed of the representatives of the various municipalities.

"Discussing the second class of municipalities that are interested in the Joint Trunk Sewer, none of the municipalities now being cared for by the Joint Trunk Sewer have adequate sewerage facilities. The Township of Maplewood and the Township of Union, also Roselle Park all require additional sewerage facilities. The Township of Maplewood has in the past expressed a desire that if they join our enterprise for obtaining additional capacity, that they be permitted to enter as a basic municipality.

"The opinion of Mr. Riker contained in a letter to Mr. Speir, clearly points the way for this, if agreeable to the other municipalities now forming the Joint Meeting.

"The needs of sewerage facilities in Union Township are so obvious that I am clearly of the opinion that they will be only too glad to enter an agreement which will give them the sewerage facilities they need.

"The meetings with the various municipalities now forming the Joint Meeting will develop a basis upon which these municipalities are willing to consider the admission of the towns now being served by the Joint Meeting by contract and I am of the opinion that discussions with the second class of municipalities can be advantageously negotiated at the present time.

"The third class of municipalities are those seeking sewerage facilities which might be provided in an enlarged sewer but who have no contractual relations at the present time with the Joint Meeting. I have no policy to recommend at the present time as to the attitude of the Joint Meeting in regard to the admission of this third class of municipalities.

"I would specifically request that a meeting be arranged at an early date with the Elizabeth authorities for the purpose of determining as nearly as may be the tentative terms for whatever additional rights are required by the Joint Meeting.

"Respectfully submitted,

"ALEXANDER POTTER."

On motion the report was received and ordered printed in the minutes.

The Chairman read the following correspondence between himself and Mr. Riker.

"March 13th, 1923.

"My dear Mr. Riker:

"About the date of the commencement of the construction of our joint trunk sewer, the municipalities constituting the joint body received a grant by instrument duly executed from the City of Elizabeth to construct and maintain a joint trunk sewer in Bayway across the entire City of Elizabeth.

"Some of the municipalities of the joint body are or will soon be exceeding their capacity in the joint trunk sewer. For some years past complaints have been referred to Mr. Potter for attention. The joint sewer has been in operation for about twenty years.

"Mr. Potter reported that it would be wise to make an exhaustive examination into the best plan for a longer life for the sewer, which would need considerable time and would be a considerable expense.

"You advised us that the joint body had power to maintain the sewer, but had no authority to spend money for plans for the renewal or reconstruction of the present sewer. Acting on this advice, each of the municipalities of the joint body raised and paid over to the joint body the sum necessary to obtain a report from Mr. Potter of the methods of obtaining greater capacity, with his suggestions and plans. Copies of Mr. Potter's report were distributed among the municipalities composing the joint body and also among adjoining municipalities.

"At a meeting called for the purpose Mr. Potter explained various schemes for providing greater capacity to the municipalities owning the joint trunk sewer, and also how adjacent municipalities could obtain relief for disposal of their sewerage.

"In examining this report certain questions have arisen, and I have been asked by members of the joint body to have you advise us in the matter—viz:

"1. If the present joint body desires to reconstruct or enlarge the present joint sewer, would the consent of the municipalities through whose streets the joint sewer runs and the consent of the private property owners through whose land it runs have to be first obtained before commencing any work?

"2. What would be the effect upon the rights in Bayway owned by the municipalities composing the present joint body should a new joint body (composed of all or part of the present joint body and of one or more new munici-

palities, organized under a new joint contract) attempt to enlarge or reconstruct the present joint sewer?

"3. (a) Would such new body have any right under the grant made by the City of Elizabeth to the municipalities composing the present joint body?

"(b) Could such new body interfere, even with the consent of the City of Elizabeth, with the present joint trunk sewer even for the purpose of increasing its capacity by reconstructing the same?

"A general opinion covering the subject will be sufficient. If you will give us this at your leisure, you will greatly oblige.

"Very truly yours,

FRANCIS SPEIR.

"ADRIAN RIKER, ESQ.,
"Lawyers Building,
"Newark, N. J."

"March 21st, 1923.

"FRANCIS SPEIR, ESQ.,
"52 Wall Street,
"New York City.
"My dear Mr. Speir:

"Your letter of March 13th requesting advice with reference to the power of the Joint Meeting to enlarge the existing joint sewer under the consents heretofore obtained from municipalities and private parties was duly received.

"1. The public and private consents and rights of way heretofore obtained for the construction of the joint sewer were all based upon the designation of sizes and locations embodied in the contract between the municipalities and the ordinances authorizing its execution, and, in my opinion, do not authorize the enlargement of the existing sewers through any of the rights of way thus obtained. In the case of the City of Elizabeth the contract is specific as to the sizes of the sewer authorized to be constructed, and there is no possible question as to the limitations thus made and the lack of authority under that contract to enlarge the existing sewer.

"2. The legal status of the joint sewer, including, of course, the portion of it built in Bayway, Elizabeth, is that of a joint property owned by the municipalities represented in the Joint Meeting. Under the supplement to the Joint Sewer Act, Chapter 174 of the Laws of 1919, it is provided, section 2:

> "'It shall be lawful for such contracting municipalities to admit any other municipality to participa-

tion in the use and the cost of the construction and maintenance of such joint outlet or trunk sewer, and to enter into contract with any such other municipality for participation in the use and in the cost of construction and maintenance of such outlet or trunk sewer, which said contract shall define and determine the terms and conditions under which such other municipalities shall be so admitted.'

"It will be noted that this legislation does not contemplate the substitution of a new Joint Meeting, but simply the admission of other municipalities than those represented in the Joint Meeting as participants in the enterprise. Assuming that the supplement of 1919 authorizes the admission of other municipalities as joint owners of the sewer itself and not merely grantees of a right to capacity, and that it is not proposed to make an entirely new joint contract, it is my opinion that a supplemental contract admitting other municipalities will have no effect upon the rights in Bayway owned by the municipalities composing the present joint body, and that no power can be obtained in this way to enlarge the existing sewer in Bayway. The fifteenth section of the contract with the City of Elizabeth expressly provides for the granting to any person, body corporate or politic, of any part or portion or capacity of the joint outlet or trunk sewer provided that such grant does not interfere with the capacity allotted under the said contract with the City of Elizabeth.

"If your inquiry is really directed to the question of whether the rights in the case of the sewer built in Bayway, Elizabeth, could be transferred to a new body without the consent of the City of Elizabeth, I think that there is no question that that could be done, but it is equally clear in my mind that such right of transfer does not involve the right to increase the capacity of the sewer designated specifically in the contract under which it was built.

"3. (a) If a new joint body shall be constituted under a new contract, and all the rights of the municipalities constituting the present joint body shall have been transferred to the municipalities represented in the new joint body, I have no question that the grant made by the City of Elizabeth would be effective and inure to the benefit of the new body.

"(b) Assuming that the present joint sewer can be legally transferred from its present owners to new owners constituting a new joint body, I am of opinion that the new joint body would have the same rights and no more

than the present joint body, which rights do not include power to enlarge the capacity of the sewer by re-constructing the same.

"Yours very truly,

"ADRIAN RIKER."

"March 27, 1923.

"My dear Mr. Riker:

"I have your favor of March 21st, for which please accept my thanks.

"Am I correct in my conclusion, after reading your letter, that the present municipalities constituting the present joint meeting under the joint contract can, under the provisions of Chapter 174 of the Laws of 1919, make a new contract for the enlargement or reconstruction of the present joint trunk sewer, in whole or in part, and admitting other municipalities to participation in the use and cost of construction and maintenance of a reconstructed joint trunk sewer, on terms and conditions set forth in an additional contract?

"If this were so, what would the procedure be? to institute a new joint body? or would the present joint meeting continue with the new municipalities who have joined in the new contract as parties with the present municipalities?

"Very truly yours,

"FRANCIS SPEIR.

"ADRIAN RIKER, ESQ.,
"Lawyers Building, Market St.,
"Newark, N. J."

"April 2nd, 1923.

"FRANCIS SPEIR, ESQ.,
"52 Wall Street,
"New York City.
"My dear Mr. Speir:

"I received your favor of March 27th in due course. You are quite correct in understanding that under the provisions of Chapter 174, Laws of 1919, the present municipalities constituting the Joint Meeting can make a supplemental or further contract for the enlargement or reconstruction of the present joint trunk sewer in whole or in part, and can admit other municipalities to participation in the use and cost of construction and maintenance of the reconstructed joint trunk sewer on terms and conditions set forth in the further or supplemental contract. The act, in my opinion, does not contemplate the formation of a new joint body, but rather a continuance of the present body which other municipalities may join or not under contracts with them as the contracts themselves may provide.

"Yours very truly,

"ADRIAN RIKER."

It was moved, seconded and carried that this correspondence be printed in full in the minutes.

A general discussion followed during which Mr. Potter stated that the City of Orange had requested Mr. Kenneth Allen, their consulting engineer, to make a report to them on the advisability of going into the Joint Sewer. He also stated that he had had an informal conference with the Elizabeth authorities which had been very satisfactory. The situation in Hillside, Union and Maplewood, as well as the question of proper charges to new municipalities, which may come in, for rights in the existing sewer was also discussed.

The Secretary read the letter from the State Board of Health referred to by Mr. Potter and on motion it was received and ordered filed and the Secretary was directed to answer the letter.

The Secretary then read the report of the Federal Audit Company who had been engaged to audit the books.

"March 20, 1923.

"Joint Sewer Commission,
"Newark, N. J.
"Gentlemen:

"Pursuant to the instructions of your Mr. Edward S. Rankin, we have audited the books and records of the Joint Sewer Commission for the period of January 1, 1921 to December 31, 1922 inclusive and as a summary of same, we attach hereto the following Exhibits:

EXHIBIT "A": Comparative Balance Sheets as of December 31, 1921 and December 31, 1922.

EXHIBIT "B": Comparative Statement of Receipts and Disbursements for the periods of January 1, 1921 to December 31, 1921 and January 1, 1922 to December 31, 1922 inclusive.

EXHIBIT "C": Comparative Statement of Assessments for each period.

"We have verified the assessments and other revenue, also all disbursements with the minute book of the Committee and Bank account, also all vouchers drawn on the Bank and reconciled the cash balance at the close of each period with the balance as shown by the Depository.

The disbursements for the year 1921 were supported

by warrants Nos. 2784 to 2895 inclusive and for the year 1922 by warrants Nos. 2896 to 3011 inclusive.

"Warrant No. 2829 drawn to the order of General Printing Co., for the amount of $7.50 was missing.

"Warrant No. 2981 in favor of C. W. Sandford for $35.10; Warrant No. 2982 in favor of E. S. Rankin for $1.60 and Warrant No. 2983 in favor of E. S. Rankin for $52.00 have not been approved by the Auditing Committee.

"Warrant No. 2880 drawn for $83.37 to Alexander Potter, was not signed by the Secretary.

"Warrant No. 2826 had been mutilated so that we could not ascertain if same had been properly signed.

"Warrant No. 2930 in favor of Alexander Potter on account of Survey, was approved by the Auditing Committee and paid on May 19th, 1922, without first having been authorized by the Joint Committee. The minutes of June 1, 1922 report the execution of this warrant, but no mention was made that the item had been approved for payment by the Joint Committee.

Respectfully submitted,

FEDERAL AUDIT CO. INC.,
By A. J. Herriger, President.
Certified Public Accountant (N. C.)

JOINT SEWER COMMISSION

Balance Sheet
as of December 31st, 1921
and December 31st, 1922.

EXHIBIT "A"

	1921	1922
Assets		
Cash Balance in Bank	$ 109.86	$ 983.75
Petty Cash on Hand	150.00	150.00
Assessments Receivable W. Orange	300.00	....
Total Assets	$ 559.86	$1133.75
Liabilities		
Surplus in Maintenance Account	$ 559.86	$1133.75
Total Liabilities	$ 559.86	$1133.75

JOINT SEWER COMMISSION
Receipts and Disbursements
for periods ending
December 31st, 1921 and
December 31st, 1922.

EXHIBIT "B"

	1921	1922
Receipts		
Balance January 1, 1921	$ 237.92	$ 109.86
Assessments	10200.00	8400.00
Assessments Balance 1921	....	300.00
Special Survey Assessment	....	4200.00
Tap Fees	50.00	80.00
Interest	28.53	69.04
Refund on overpayment	.20	....
Total	$10516.65	$13158.90
Disbursements		
Chief Inspector's Salary	$ 2400.00	$2400.00
Ass't. Inspector's Salary	1800.00	1800.00
Engineer's Salary	1000.00	1000.00
Treasurer's Salary	250.00	250.00
Counsel's Salary	250.00	325.00
Secretary's Salary and Office	422.00	422.00
Executive Committee Salaries	230.00	250.00
Survey	1750.00	531.81
Special Survey	.....	4200.00
Gauges	715.00	....
Vermont Ave. Sewer Repairs	281.97	....
Labor	215.50	228.00
Painting	78.50	....
Printing Minutes, etc	62.75	103.00
Telephone	111.74	105.63
Automobile Expense	530.93	352.36
Miscellaneous Expense	122.89	92.20
Auditing	75.00	....
Insurance	110.51	115.15
Total	$10406.79	$12175.15
Balance December 31, 1921	$ 109.86	$ 983.75

JOINT SEWER COMMISSION
Statement of Revenue from Assessments
for years 1921 and 1922.

EXHIBIT "C"

	1921	1922
City of Newark Regular Ass't.	$ 3000.00	$ 2400.00
" " " Special "	....	1200.00
City of Summit Special Ass't.	....	600.00
" " " Regular "	1500.00	1200.00
Town of Irvington Regular Ass't. ..	1500.00	1200.00
" " " Special " ..	....	600.00
Town of West Orange Special Ass't.	....	600.00
" " " " Regular Ass't.	1500.00	1200.00
Village of South Orange Regular Ass't	1500.00	1200.00
" " " " Special Ass't.	....	600.00
Township of Milburn Special Ass't.	....	600.00
" " " Regular Ass't.	1500.00	1200.00
Total	$10500.00	$12600.00
Regular Assessment		$ 8400.00
Special Survey Assessment		4200.00
		$12600.00

In regard to the criticisms made in the report the Secretary stated that he was unable to find voucher No. 2829 but referred to the minutes of June 16, 1921, page 277, on which it was ordered paid.

Vouchers 2981, 2982, and 2983 have since been signed by the Auditing Committee.

Warrant 2880 has since been signed by the Secretary.

Warrant 2826 has had the upper half (the order on the Treasurer) cut off but the check is properly signed and endorsed.

In regard to Warrant 2930, the Secretary referred to the minutes of June 16, 1921, page 277, where he is directed to pay this charge as funds are available.

The Secretary reported a slight injury to one of Mr. Sandford's laborers and stated that he had taken the matter up with the Insurance Company. The Company has already paid the doctor's bill and a further adjustment is expected.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 4 ayes, no noes.

Alexander Potter, March salary	$ 83.33
S. H. Rollinson, Jan., Feb., Mar. salary	62.50
C. W. Sandford, March salary	200.00
J. J. Keating, March salary	150.00
E. S. Rankin, March salary and office	35.16
Lewis Landsberg, Gauge charts	5.00
Builders Iron Foundry Co., Venturi Charts	4.13
New York Telephone Co., Service	35.65
Wm. P. Coe, Liability Insurance	64.05
Post Co., Mason materials	10.50
Flockhart Foundry Co., Manhole covers	39.00
John G. Krueger Agency, Printing Stationery	7.75
Federal Audit Co., Auditing Books	75.00
S. A. Miller, Plumbing	8.75
Weibezahl Print, Printing Minutes	3.00
C. W. Sandford, Expense account	11.25
C. W. Sandford, Auto expenses	23.90
E. S. Rankin, Secy., Petty cash	100.00
	$918.97

On motion the meeting adjourned at 9:45 p. m.

EDWARD S. RANKIN,
Secretary.

The following report received after the meeting is hereby appended:

"To the Various Municipalities Comprising the Joint Sewer Meeting.

"Gentlemen:

"The Treasurer respectfuly reports that on January 25th, 1923, the date of his last report, he had on deposit in the Orange National Bank the sum of $1003.75 with Warrant 2998 for $20. outstanding, so that the total amount of cash on hand at that time was the sum of $983.75.

"The Treasurer further reports that since the time of his last report he has been allowed $5.39 interest and has deposited the sum of $3300., making a total of cash on hand, as shown on Schedule 1, hereunto annexed, amounting to $4289.14.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule 2, hereunto annexed, amounting to $3645.30; that said warrant previously outstanding for $20. has been presented for payment, so that the Treasurer has on de-

posit in the Orange National Bank the sum of $643.84 with no warrants outstanding.

"All of which is respectfully submitted this 19th day of April 1923.

SIMEON H. ROLLINSON.
Treasurer.

SCHEDULE 1.

1923			
Jan.	25	Balance	$ 983.75
"	29	Millburn	300.00
Feb.	8	Summit	300.00
"	8	West Orange	300.00
"	19	South Orange	300.00
"	21	Irvington	300.00
"	21	Newark	600.00
Mar.	8	Summit	300.00
"	14	West Orange	300.00
"	19	South Orange	300.00
"	26	Millburn	300.00
		Interest	5.39
			$4289.14

SCHEDULE 2.

1923			
Jan.	20	Alexander Potter	$ 83.33
"	20	C. W. Sandford	200.00
"	20	J. J. Keating	150.00
"	20	E. S. Rankin	35.16
"	26	Weibezahl Print	9.50
"	26	N. J. Telephone Co.	35.64
"	26	National Process Co.	192.00
"	26	C. W. Sandford	53.05
"	26	J. J. Keating	4.34
"	26	E. S. Rankin, Sec'y.	94.00
Feb.	28	Alexander Potter	83.33
"	28	C. W. Sandford	200.00
"	28	J. J. Keating	150.00
"	28	E. S. Rankin	35.16
Mar.	2	Cozzolino Printing Co.	1739.10
"	2	Weibezahl Print	11.00
"	2	C. W. Sandford	10.70
"	2	E. S. Rankin, Sec'y.	28.00
"	30	Alexander Potter	83.33
"	30	S. H. Rollinson	62.50
"	30	C. W. Sandford	200.00
"	30	J. J. Keating	150.00
"	30	E. S. Rankin	35.16
			3645.30

Cash on hand ..... $ 643.84

Joint Meeting of June 7, 1923.

The annual meeting was held at the South Orange Village Hall on Thursday, June 7th, at 8 P. M.

Those present were Francis Speir, Chairman; Wellington Campbell, Millburn; H. R. Van Duyne, Newark; Graham King, South Orange, and F. A. O'Connor, West Orange. Mr. I. J. Casey represented Irvington in the absence of Mr. Stanley. The Engineer and Inspectors were also present.

The minutes of the last meeting were approved as printed.

Mr. Potter presented his regular report.

"June 7th, 1923.

"The Joint Meeting,
South Orange Village, N. J.

"Gentlemen: —

"Since the last meeting, there has been no unusual happening in connection with the maintenance of the Joint Trunk Sewer.

"The City of Newark has made a connection within the limits of the Town of Irvington, the flow through which must be charged against Newark's capacity in the Joint Sewer. Some arrangements must be made between Newark and Irvington regarding this point. The physical connection has been inspected by the Joint Sewer inspectors and is satisfactory.

"Your engineer has had the pleasure of meeting with the officials of a number of the municipalities forming the Joint Sewer and has appointments to meet with the officials of other municipalities.

"A meeting was held with the officials of the City of Newark, at which meeting were present Mr. H. R. Van Duyne, Mr. Morris R. Sherrerd, Consulting Engineer for the City of Newark and Mr. E. S. Rankin. This meeting was held at the suggestion of Director Raymond. It was the concensus of all of the representatives of Newark present, that Newark should become a party to a new contract for the enlargement of the Joint Outlet Sewer facilities.

"A meeting was held on May 28th, with the Commissioners of the Town of West Orange, N. J., at which meeting your engineer explained the needs of providing additional sewerage facilities and the unsatisfactory conditions now existing, due to the overloading of the sewer. On May 29th, at a regular meeting of the Town Commissioners, of West Orange, the following resolution was passed:—

"'RESOLVED, that it is the sense of the Board of Commissioners that the Town of West Orange enter into a contract with the various other interested municipalities for the enlargement of the Joint Outlet Sewer facilities.'

"All members voting aye.

"As it will be necessary for all of the towns to take formal action, I would suggest that Mr. Riker be requested to draw up a formal motion which might be submitted to the various municipalities, providing for the execution of a contract.

"On June 6th, the Township Committee of Millburn invited representative citizens and also representatives from the various civic bodies to meet your engineer to discuss the matter of providing additional sewerage facilities. It was agreed that another meeting be held at which a larger number of citizens might be present before the Township Committee definitely passed a resolution committing the Township to enter into a new contract. This conclusion was reached because last evening the weather was very inclement and as a consequence relatively few citizens attended the meeting.

"A meeting has been arranged for June 13th by Mr. Stanley, at which meeting this matter will be discussed publicly in the Town of Irvington.

"Your engineer is endeavoring to arrange meetings with Summit, South Orange and Maplewood.

"A meeting is also scheduled for next week in the Township of Union to discuss this matter publicly.

"I would renew the recommendation made in the previous report that a committee be appointed to wait upon the officials of the City of Elizabeth to discuss with them the general problem of enlarging the sewer for additional sewerage facilities in Elizabeth. This meeting is particularly important, as Elizabeth is discussing the extension of its paving program, covering long stretches of Bayway that are not paved.

"Respectfully Submitted,

"ALEXANDER POTTER."

On motion the report was received and ordered printed.

It was moved and carried that a Committtee be appointed to wait on the Elizabeth authorities and confer with them as to our right to increase the sewer facilities through the City. The Chairman appointed Mr. Van Duyne, with the Engineer and Secretary to act with him on this committee and also re-

quested all other members of the Joint Body to be present if possible.

It was moved that Mr. Riker be requested to draft a form of resolution for submission to the several municipalities composing the Joint Meeting, and also for others which may wish to join in the proposed new sewer, on the line of the resolution passed by West Orange. Carried.

In the absence of the Treasurer, his report was read by the Secretary.

"To the Various Municipalities Comprising the Joint Sewer Meeting

"Gentlemen:—

"The Treasurer respectfully reports that on April 19th, 1923, the date of his last report, he had on deposit in the Orange National Bank the sum of $643.84 with no war-warrants outstanding.

"The Treasurer further reports that since the date of his last report he had deposited the sum of $906.03, as shown on Schedule I, hereto annexed, making the total of cash on hand amount to $1549.87.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule II, as hereunto annexed amounting to $1324.96, so that the Treasurer has on deposit in the Orange National Bank the sum of $260.07 with warrant No. 3055 for $35.16 outstanding, leaving a net balance of $224.91 as the amount of cash on hand.

"All of which is respectfully submitted this 7th day of June, 1923.

"Simeon H. Rollinson,
"Treasurer."

SCHEDULE I.

1923		
Apr. 19	Balance	$643.84
Mar. 21	Newark	600.00
Apr. 4	Louis Bollinger (Doctor Fee)	3.00
May 2	Irvington	300.00
" 14	Return premium	3.03
		$1549.87

SCHEDULE II.

1923			
Apr.	20	Lewis Landsbery	$ 5.00
"	20	Builders Iron Foundry Co.	4.13
"	20	N. Y. Telephone Co.	35.65
"	20	William P. Coe	64.05
"	20	Post Co.	10.50
"	20	Flockhart Foundry Co.	39.00
"	20	John G. Krueger Adv. Agency	7.75
"	20	Federal Audit Co.	75.00
"	20	S. A. Miller	8.75
"	20	Weibezahl Print	3.00
"	20	C. W. Sandford	11.25
"	20	C. W. Sandford	23.90
"	20	E. S. Rankin, Sec'y	100.00
"	30	Alexander Potter	83.33
"	30	C. W. Sandford	200.00
"	30	J. J. Keating	150.00
"	30	E. S. Rankin	35.16
May	29	Alexander Potter	83.33
"	29	C. W. Sandford	200.00
"	29	J. J. Keating	150.00
"	29	E. S. Rankin	35.16
			$1324.96
		Cash on hand	$224.91

On motion the report was received and ordered printed.

The following resolution was read and on roll call carried. 5 ayes; no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i.e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 7th day of June, 1923.

"This is the assessment for the 3rd quarter of 1923."

The following officers were unanimously elected for the ensuing year:

Chairman,	Francis Speir
Vice Chairman,	Wellington Campbell
Engineer,	Alexander Potter
Counsel,	Adrian Riker
Treasurer,	Simeon H. Rollinson
Secretary,	Edward S. Rankin
Chief Inspector,	Corey W. Sandford
Ass't Eng'r,	John J. Keating

It was decided to hold the annual inspection on Thursday, June 21st, to start from the Newark City Hall at 9 A. M. The Chairman invited the members and officers to be his guests at luncheon at the Orange Lawn Tennis Club.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee.

Alexander Potter, April salary,	$83.33
C. W. Sandford, April salary,	200.00
J. J. Keating, April salary,	150.00
E. S. Rankin, April salary and office,	35.16
Alexander Potter, May salary	83.33
C. W. Sandford, May salary,	200.00
J. J. Keating, May salary,	150.00
E. S. Rankin, May salary and office	35.16
Francis Speir, Executive Committee	20.00
Wellington Campbell, Executive Committee	20.00
F. A. O'Connor, Executive Committee,	20.00
Graham King, Executive Committee,	20.00
H. J. Stanley, Executive Committee	15.00
E. G. Pringle, Executive Committee,	10.00
H. R. Van Duyne, Executive Committee,	10.00
John R. Franke, Auto insurance,	96.00
Hardham Printing Co., Warrant book	27.50
C. W. Sandford, Auto expenses,	31.60
J. J. Keating, Expense account	3.71
E. S. Rankin, Sec'y, Petty cash,	56.00
	$1266.79

On motion the meeting adjourned at 8.45 P. M.

EDWARD S. RANKIN,
Secretary.

ANNUAL INSPECTION.

June 21, 1923.

The Annual Inspection of the Joint Trunk Sewer was held on the above date, the party leaving the Newark City Hall about 9:30 A. M.

Those present were Messrs. Francis Speir, Chairman; E. G. Pringle, Summit, H. R. Van Duyne, Newark; F. A. O'Connor, West Orange; Graham King, South Orange, and Mayor E. R. Folsom of Irvington. The Engineer, Inspectors and Secretary were also present and Mr. M. A. Fitzsimmons, Clerk of South Orange.

Mr. Potter first conducted the party to the outlet which has been proposed, lying north of Elizabeth and from there through Hillside and down Bayway to the present outlet. Returning over Bayway, a stop was made at Potter Avenue where a well has been dug immediately adjoining the sewer, and another stop at the junction of the Irvington line with the main trunk. The three connections now being made by Union Township were next visited after which the party proceeded to the home of the Chairman where a brief but most enjoyable session was held. Mr. Speir entertained the party at luncheon at the Orange Lawn Tennis Club.

After the coffee had been served a short business meeting was held. Mr. Potter made a statement of his visit to the meeting of the State Board of Health at Trenton and his interview with the Elizabeth authorities. It was arranged to meet the Elizabeth Commissioners on Tuesday afternoon, June 26th.

The Secretary was on motion directed to send a bill to Union Township in accordance with the resolution of August 3rd, 1922.

The meeting adjourned at 2:30 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of August 16th, 1923.

A regular meeting of the Joint Meeting was held in the South Orange Village Hall at 8 P. M. on the above date.

Those present were Francis Speir, Chairman; Wellington Campbell, Millburn; H. J. Stanley, Irvington; H. R. Van Duyne, Newark; E. G. Pringle, Summit; F. A. O'Connor, West Orange; and Graham King, South Orange.

The Engineer, Treasurer and Inspectors were also present.

The minutes of the meeting of June 7 were approved as printed.

Engineer Potter presented the following report which, on motion, was received and ordered printed.

"August 16th, 1923.

"The Joint Meeting,
South Orange Village,
State of New Jersey.

"Gentlemen:-

,"I beg to submit the following report:

"Since the last meeting, conferences have been had with various municipalities, especially conferences with the Board of Public Works of the City of Elizabeth.

"As stated in previous reports, the attitude of the City of Elizabeth in granting permission to the Joint Meeting for the construction of another sewer has been most friendly and cordial. They have, however, been obliged to consider the criticism that would be directed towards them in granting permission to construct the sewer along Bayway, since that street has recently been paved from curb to curb with the highest class of permanent pavement.

"Various alternate routes have been suggested by Elizabeth's representatives and myself, but the one which seems to me the most favorable is the one that was suggested by the City Attorney of Elizabeth, and is shown upon the maps, plans and profiles submitted herewith. Even on this plan, it is not altogether possible to get away from the plan of paralleling our system on Bayway and North Avenue.

"The sewer is to be constructed on Bayway or El Mora Avenue as it is now called, thence along Magie Street, crossing Westfield Avenue, thence passing from Westfield Avenue across the tracks of the Central Railroad of N. J.

to de Hart Place, thence along De Hart Place to the Pennsylvania Railroad tracks where the sewer will either be carried parallel with the Pennsylvania Railroad before crossing the tracks or will be carried across the Pennsylvania Railroad in an extension of De Hart Place to joint Bayway at New York Avenue. Which one of these lines will be used will be determined later.

"I am of the opinion, from my discussion with the Elizabeth authorities, that they are going to ask some remuneration or compensation for the privilege of building the sewer through the city and I am of the opinion, although no statement has been definitely made, that as sewage disposal will be needed in the near future, Elizabeth may probably ask the Joint Meeting in purchasing land for their needs, to purchase land for the requirements of the City of Elizabeth.

"I am informed that all of the members of the Board, as well as Union, have signified their willingness to enter into a new contract and I would suggest that a meeting be arranged to take up the procedure of these preliminaries.

"The City of Orange is desirous of negotiating with the Joint Meeting for sewerage facilities and I am informed that the Township of Hillside is also anxious to arrange with the Joint Meeting whereby they can obtain sewerage facilities.

"Both these cities are anxious to confer with the Joint Meeting at an early date.

"I had a conference with the Town Officials of the Town of Maplewood and am of the opinion that they will be only too glad to secure privileges in the Joint Trunk Sewer.

"The question has again been raised in reference to the raising of the manhole on the Joint Trunk Sewer, where property owners have seen fit to fill in over the sewer crossing their property. If my memory serves me right, Mr. Riker has already expressed an opinion that the Joint Meeting should pay for the cost of raising the manholes so as to continue our access to the sewer. This is a very serious matter, because in some instances, it may be necessary to make chimneys on the sewers as high as twenty-five (25) feet. Whether this really should be charged against the Joint Meeting, property owners or municipalities should receive serious consideration.

"The sewer has been functioning properly since the last meeting.

"Respectfully submitted,

"Alexander Potter."

In reference to the last paragraph of the report, the Secretary read from the Minutes of April 20, 1922, in which Mr. Riker advised that the property owners must pay for raising the manholes.

The Secretary also read a letter recently received by him from the Township Attorney of Hillside requesting information as to the possibility of Hillside entering the Joint Sewer. He was directed to answer the letter stating that the Joint Meeting was now engaged in considering ways and means of enlarging the Joint Sewer and that the needs of Hillside would receive favorable consideration.

A long discussion followed regarding the admission of outside municipalities and the terms on which they should be allowed to come in, Mr. Stanley taking the ground that they should pay a proportion of the cost of the present sewer as well as of the proposed new sewer, and suggested that experts be engaged to place a valuation on the present sewer. Mr. Van Duyne finally offered the following motion, which was duly seconded and carried: Moved that the Chair appoint a committee of three to act with the Engineer and Counsel to collect all necessary data and formulate plans which may be followed in preparing the contract for enlarging the sewer. The Chairman appointed Messrs. Pringle, Van Duyne and O'Connor as the committee.

Mr. Potter stated that since negotiations with the several towns and particularly with Elizabeth had been pending, he had been under considerable expense and suggested that some compensation be allowed at this time. Mr. Stanley objected on the ground that he would be reimbursed by his fees in connection with the new construction, and Mr. Pringle stated that Common Council of Summit had gone on record as opposing any further appropriation until the expense to the several towns had been definitely pro-rated.

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:-

"The Treasurer respectfully reports that on June 7th, 1923, the date of his last report, he had on deposit in the Orange National Bank the sum of $260.07 with warrant No. 3055, for $35.16, outstanding, leaving a net balance of $224.91.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank, the sum of $4610., as shown on Schedule I, hereunto annexed, making the total amount of cash on hand $4834.91.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II. hereunto annexed amounting to $1329.29, so that the Treasurer has on deposit in the Orange National Bank the sum of $3505.62 with no warrants outstanding.

"All of which is respectfully submitted this 16th day of August, 1923.

"S. H. Rollinson,
"Treasurer."

SCHEDULE I.

1923			
June	7	Balance	$224.91
"	11	Tap Fees,	10.00
"	15	West Orange,	300.00
"	18	South Orange	300.00
"	10	Summit,	300.00
"	20	Irvington,	300.00
"	25	Millburn,	300.00
July	2	Union,	2500.00
"	16	Newark,	600.00
			$4834.91

SCHEDULE II.

1923			
June	8	Francis Speir,	$20.00
"	8	Wellington Campbell,	20.00
"	8	F. A. O'Connor,	20.00
"	8	Graham King,	20.00
"	8	H. J. Stanley,	15.00
"	8	E. G. Pringle,	10.00

"	8	H. R. Van Duyne,	10.00	
"	8	John R. Franke,	96.00	
"	8	Hardman Printing Co.,	27.50	
"	8	C. W. Sandford,	31.60	
"	8	J. J. Keating,	3.71	
"	8	E. S. Rankin, Sec'y,	56.00	
"	8	S. H. Rollinson,	62.50	
"	8	Alexander Potter,	83.33	
"	8	C. W. Sandford,	200.00	
"	8	J. J. Keating,	150.00	
"	8	E. S. Rankin,	35.16	
"	8	Alexander Potter,	83.33	
"	8	C. W. Sandford,	200.00	
"	8	J. J. Keating,	150.00	
"	8	E. S. Rankin,	35.16	
				1329.29
		Cash on hand,		$3505.62

The Secretary read the following resolution which, on roll call, was carried, 5 ayes and no noes.

"WHEREAS, on August 3, 1922, permission was granted to the Township of Union to discharge 375,000 gallons of sewage into the Joint Sewer upon the payment to the Joint Meeting of the sum of $2500. in accordance with the existing contract between the Joint Meeting and The Township of Union;

"AND WHEREAS, on October 19, 1922, the Secretary reported that Mr. Riker had advised that said $2500. when received should be divided among the contracting municipalities in accordance with the percentage which each municipality owned in the Joint Trunk Sewer, which percentage is set forth in the following table:

Summit	20.13%	$ 503.25
Newark (including Vailsburg)	20.30%	507.50
Irvington	16.06%	401.50
West Orange	16.80%	420.00
South Orange	16.29%	407.25
Millburn	10.42%	260.50
	100. %	$2500.00

"AND WHEREAS, payment was made to the Joint Meeting by the Township of Union on July 3, 1923, of said sum of $2,500.00;

"Therefore be it Resolved, That the Secretary be and he is hereby directed to mail checks to the several contracting municipalities for the above amounts."

The following resolution was then presented and on roll call carried, 5 ayes, no noes.

"Resolved: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2100. which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i.e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid to each; and be it further

"Resolved: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 16th day of August, 1923.

"This is the assessment for the 4th quarter of 1923."

The following bills were read and, on motion, ordered paid after being approved by the Auditing Committee, 4 ayes, no noes.

Alex. Potter, June Salary	88.33
C. W. Sandford, June salary,	200.00
J. J. Keating, June salary	150.00
E. S. Rankin, June salary and office	35.16
Alex. Potter, July salary	83.33
C. W. Sandford, July salary	200.00
J. J. Keating, July salary	150.00
E. S. Rankin, July salary and office	35.16
S. H. Rollinson, April, May, June salary	62.50
Adrian Riker, Counsel fees	300.00
Town of Irvington, Acc't Union Township	401.50
Town of Millburn, Acc't Union Township	260.50
City of Newark, Acc't Union Township	507.50

Village of So. Orange, Acc't Union Township	407.25
City of Summit, Acc't Union Township	503.25
Town of West Orange, Acc't Union Township	420.00
New York Telephone Co., Telephone service,	29.29
Wm. P. Coe, Liability Insurance,	4.48
Weibezahl Print, Printing Minutes	28.00
C. W. Sandford, Expense account,	2.61
C. W. Sandford, Auto expenses	34.37
E. S. Rankin, Secy., Petty cash	20.00
	3918.23

On motion the meeting adjourned at 10:15 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of October 4th, 1923.

A meeting was held on the above date at the South Orange Village Hall at 8 P. M. Those attending were Mr. Francis Speir, Chairman; Dr. Wellington Campbell, Millburn, Messrs. H. R. Van Duyne, Newark; H. J. Stanley, Irvington; E. G. Pringle, Summit; F. A. O'Connor, West Orange; and Graham King, South Orange. The Engineer, Treasurer and Inspectors were also present; also Engineer Casey of Irvington.

On being called upon, Mr. Potter said that he had prepared no formal report but outlined the work which had been done by the Special Commission on enlargement. He stated that the Committee had held a meeting at his office in New York on September 19th, at which all the members together with the Secretary were present and another in Mr. Van Duyne's office on October 4th which was attended by Mr. Van Duyne, and the Secretary. The Committee felt that it was not prepared to make a formal report at this time and asked for power to confer with the outside municipalities and agree with them as to the terms on which they would be given rights in the sewer, subject to the approval of the Joint Meeting.

At the request of the Committee the following Resolution was presented and passed unanimously:

RESOLVED, that the present Special Committee on Enlargement of the Joint Trunk Sewer be authorized to take up and discuss with municipalities other than those composing the Joint Meeting, tentative plans upon which said other municipalities may join in the cost and benefits of any such enlargement, and so report to the Joint Meeting.

At the urgent request of Mr. Pringle the Chairman accepted his resignation from the Committee and appointed Mr. Stanley in his place. The Secretary was also asked to meet with the Committee.

The Treasurer's Report was then read and on motion received and ordered printed.

"TO THE VARIOUS MUNICIPALITIES COMPRISING THE JOINT SEWER MEETING:

"Gentlemen:

"The Treasurer respectfully reports that on August 16, 1923, the date of his last report, he had on deposit in the

Orange National Bank the sum of $3505.62 with no warrants outstanding.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1510, and has been allowed $7.21 as interest, as shown on Schedule I hereunto annexed, making a total of cash on hand amounting to $5022.83.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II hereunto annexed, amounting to $3918.23 so that the total amount of cash on hand at the date of this report is the sum of $1104.60.

"Warrants Nos. 3094 to 3098 inclusive, amounting to ,$530.99 are now outstanding so that the Treasurer has on deposit in the Orange National Bank the sum of $1635.59.

"All of which is respectfully submitted this 4th day of October, 1923.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE I.

Balance		$3505.62
Sept. 5, 1923.	Tap fee	10.00
Aug. 20, "	South Orange	300.00
" 21, "	Summit	300.00
" 27, "	Milburn	300.00
Sept. 15, "	West Orange	300.00
" 19, "	Irvington	300.00
" 29, "	Interest	7.21
	Total	$5022.83

SCHEDULE II.

Aug. 17, 1923.	Adrian Riker	3077	$300.00
	Weibezahl Print	3078	28.00
	N. Y. Tel. Co.	3079	29.29
	Wm. P. Coe	3080	4.48
	C. W. Sandford	3081	2.61
	" " "	3082	34.37
	E. S. Rankin, Secy.	3083	20.00
	Town of Irvington	3084	401.50
	Township of Milburn	3085	260.50
	City of Newark	3086	507.50
	Village of South Orange	3087	407.25

		City of Summit	3088	503.25
		Town of West Orange	3089	420.00
"	31, "	Alexander Potter	3090	83.33
		C. W. Sandford	3091	200.00
		J. J. Keating	3092	150.00
		E. S. Rankin	3093	35.16
Sept.	29, "	Alexander Potter	3094	83.33
		S. H. Rollinson	3095	62.50
		C. W. Sandford	3096	200.00
		J. J. Keating	3097	150.00
		E. S. Rankin	3098	35.16
	Total			$3918.23
	Cash on hand			$1104.60

It was moved that the several municipalities take up with their Engineers the capacity which would be required by each for the coming 30 years. Carried.

The following bills were read and on motion ordered paid after being approved by the Auditing Committee:

Alex. Potter, August salary	$ 83.33
C. W. Sandford, August salary	200.00
J. J. Keating, August salary	150.00
E. S. Rankin, August salary and office	35.16
Alex. Potter, September salary	83.33
C. W. Sandford, September salary	200.00
J. J. Keating, September salary	150.00
S. H. Rollinson, July, Aug. Sept. salary	62.50
E. S. Rankin, September salary and office	35.16
N. Y. Telephone Co, Telephone service	33.57
Weibezahl Print, Printing minutes	12.75
Geo. W. Frost, Repairing gauges	11.25
American Surety Co., Premium on Treasurer Bond	20.00
Barth Teague Co., Tires and tubes	54.15
C. W. Sandford, Auto expenses	25.40
E. S. Rankin, Secy., Petty cash	28.00
	$1,184.60

On motion the meeting adjourned at 9:25 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of November 8th, 1923.

A regular meeting of the Joint Meeting was held in the South Orange Village Hall on November 8th, at 8 P. M.

There were present Mr. Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; Messrs. H. J. Stanley, Irvington; F. A. O'Connor, West Orange; Graham King, South Orange; E. G. Pringle, Summit, and H. R. Van Duyne, Newark. The Engineer and Inspectors were also present and Engineer Casey of Irvington.

The minutes of the last meeting were approved as printed.

Engineer Potter presented the following report:

"November 8th, 1923.

"The Joint Meeting,

"Gentlemen:-

"The Inspectors report that since the last meeting, the sewer has been functioning satisfactorily and that there has been no stoppage along the line of the sewer or any of its branches.

"The records of flow in the sewer show a gradual increase in the average daily flow with seasonal fluctuations due to the changes of the ground.

"One connection has been made outside of the municipalities in the Township of Union on Union Avenue. The connection being made to the house of J. Neubier. A lateral sewer is being made on Morris Avenue to connect with the Joint Trunk Sewer as it crosses Morris Avenue in the Township of Union. This sewer has been constructed under the inspection of our own Inspector and is intended to provide sewerage facilities for some new development on either side of Morris Avenue. The flow from this sewer will of course be charged to Union Township's capacity. The sewers of Union Township in the Vauxhall section have been completed with the exception of the measuring devices for determining the flow of the sewer. Observations have been made from time to time as to the leakage accumulating from the sewers thus connected to the Joint Trunk Sewers and the amount of flow is well within the amount anticipated.

"Your Engineer has had numerous conferences with the Elizabeth authorities in reference to the construction of a supplementary sewer through Elizabeth and the Board of Public Works have tentatively agreed to permit the construction of this supplementary sewer on the following terms:

"That a sewer be built 78 inches in diameter following along the line agreed upon between Elizabeth and

your Engineer as shown upon the plan submitted herewith, provided, however, that detailed plans are first worked out, showing exactly how it is proposed to take care of any interference with the existing or proposed sanitary or storm sewers in the City of Elizabeth and that such provisions shall meet with the approval of the City Engineer of Elizabeth and that the expense of such be borne by the Joint Meeting. That in lieu of the reconstruction of a permanent pavement on such streets where we interfere with existing pavements and in lieu of the purchase of additional land of sufficient area to provide an adequate sewage disposal plant for the City of Elizabeth, that a fixed sum be agreed upon to be paid to the City of Elizabeth.

"Your Engineer has discussed with the City officials of Elizabeth the amount thus to be asked which has been tentatively stated by the City of Elizabeth, but this amount might be altered to a reasonable degree after the detailed plan requested by the City of Elizabeth has been submitted.

"The City of Elizabeth will agree to pass a resolution in accordance with the suggestions outlined herein and a meeting has been fixed for further discussion of this matter on Tuesday afternoon, November 13, 1923.

"The Committee to negotiate with other municipalities likely to require admission to the Joint Trunk Sewer have held a number of meetings and the meeting tonight has been called primarily for this Committee to take up with Maplewood the terms upon which they might be admitted as a basic member of the Joint Trunk Sewer.

"Respectfully submitted,

ALEXANDER POTTER."

After Mr. Potter had explained further regarding negotiations with Elizabeth, the report was received and ordered printed.

Representatives from the Township of Maplewood were present on invitation and to them the Chairman explained the situation regarding the present sewer and the proposed enlargement. Following Mr. Speir, Mr. Potter explained the Engineering features of the case and stated the terms which had been tentatively agreed on for the admission of Maplewood. The talk was entirely informal and no action of any kind was taken.

The Chairman read the Resolution recently passed by the Township of Hillside stating that it was the sense of the Township to participate in the new sewer.

In the absence of the Treasurer, his report was read by the Secretary and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the 4th day of October, 1923, the date of his last report, he had on deposit in the Orange National Bank, the sum of $1635.59, with warrants amounting to $530.99 outstanding, so that the total balance of cash on hand at that date was the sum of $1104.60.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $30, making a total amount of cash on hand of $1134.60, as shown on Schedule I hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II hereunto annexed amounting of $653.61, so that the total amount of cash on hand at the date of this report is the sum of $480.99. Warrant No. 3109 for $35.16 is now outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $516.15.

"All of which is respectfully submitted this 8th day of November, 1923.

"Simeon H. Rollinson,
"Treasurer."

SCHEDULE I.

Balance brought forward		$1104.60
Deposits:		
October 25, 1923—Tap Fee	$10.00	
" " " " "	10.00	
" " " " "	10.00	
		30.00
TOTAL		$1134.60

SCHEDULE II.

Disbursements:

Oct.	5	N. Y. Telephone Co.	No. 3099	$33.57
"	"	Weibezahl Print	3100	12.75
"	"	Geo. W. Frost & Son	3101	11.25
"	"	American Surety Co.	3102	20.00
"	"	Barth-Teague Co.	3103	54.15

"	"	C. W. Sanford	3104	25.40
"	"	E. S. Rankin, Secy.	3105	28.00
"	30	Alexander Potter	3106	83.33
"	"	C. W. Sanford	3107	200.00
"	"	J. J. Keating	3108	150.00
"	"	E. S. Rankin	3109	35.16
		TOTAL		$ 653.61
		BALANCE		$ 480.99

The Secretary presented a statement of the disbursements for the year and the following Resolution, which was passed by 6 ayes, no noes.

"WHEREAS, in accordance with Chapter 175 of the State Laws of 1919, the Joint Meeting shall before the first day of December in each year make an estimate and determine the cost and expense of maintaining and operating such public improvements for the year beginning the first day of January then next, and shall cause the same to be certified by the Secretary of the Joint Meeting to each of the Municipalities contracting for said improvements;

"THEREFORE BE IT RESOLVED, That the Joint Meeting hereby estimates and determines the cost and expense of maintaining and operating the Joint Outlet Trunk Sewer for the year beginning January 1, 1924, to be the sum of $8400, and the Secretary is hereby directed to mail a copy of this resolution to each of the municipalities represented in the Joint Meeting."

The Secretary was directed to notify the several municipalities that in addition to the regular budget they would probably be called upon for a further contribution for preliminary expenses in preparing for the enlargement.

An informal talk on the capacities required by the several towns followed, after which the following bills were read and on motion ordered paid after being approved by the Auditing Committee.

Alex. Potter, October Salary	83.33
C. W. Sandford, October Salary	200.00
J. J. Keating, October Salary	150.00
E. S. Rankin, October salary and office	35.16
Weibezahl Print, Printing Minutes	4.50
Washington Avenue Garage, Repairing Auto	39.02

On motion adjourned at 9:45 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of January 3, 1924.

A regular meeting of the Joint Meeting was held at the South Orange Village Hall on January 3rd, at 8 P. M.

There were in attendance Mr. Francis Speir, Chairman, Dr. Wellington Campbell, Millburn; and Messrs. Graham King, South Orange; F. A. O'Connor, West Orange; H. J. Stanley, Irvington and H. R. Van Duyne, Newark; Engineer Potter, Treasurer Rollinson and Inspectors Sandford and Keating were also present with Engineer Casey of Irvington.

On motion the minutes of the last meeting were approved as printed.

Engineer Potter stated that he had been unable to prepare a written report as he had spent the greater part of the day in conference with the Elizabeth authorities. He had hoped to secure for this meeting a definite proposition from Elizabeth but had been unable to do so. A running talk followed after which the Treasurer presented his regular report which, on motion, was approved and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the 8th day of November, the date of his last report he had on deposit in the Orange National Bank the sum of $516.15 with one Warrant for $35.16 outstanding, so that the total amount of cash on hand at that date was the sum of $480.99.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $610 and has been allowed interest amounting to $3.28, so that the total amount of cash on hand was the sum of $1094.27, as shown on Schedule 1 hereto annexed.

"The Treasurer further reports that since the date of his last report he has executed Warrants amounting to $1043.12, as shown on Schedule II hereto annexed, so that the total amount of cash on hand at the date of this report is the sum of $51.15. Warrant 3109 for $35.16 formerly outstanding has been presented for payment, but

Warrants 3116 for $83.37, 3118 for $200, 3119 for $150 and 3120 for $35.24, aggregating $468.61, are now outstanding so that the Treasurer has on deposit in the Orange National Bank the sum of $519.76, the true balance being $51.15.

"All of which is respectfully submitted this third day of January, 1924.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE I.

Nov. 1—Balance			$ 480.99
26—Tap Fee		$ 10.00	
Dec. 21—City of Newark		600.00	
27—Interest		3.28	
			613.28
			$ 1094.27

SCHEDULE II.

Nov. 28—Alexander Potter	3112	$ 83.33	
C. W. Sandford	3113	200.00	
J. J. Keating	3114	150.00	
Washington Avenue Garage	3111	39.02	
E. S. Rankin	3115	35.16	
Weibezahl Print	3110	4.50	
Dec. 28—Alexander Potter	3116	83.37	
Simeon H. Rollinson	3117	62.50	
C. W. Sandford	3118	200.00	
J. J. Keating	3119	150.00	
E. S. Rankin	3120	35.24	
			1043.12
Balance			$ 51.15

The following resolution was then read by the Secretary and on roll call passed, 5 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of

$2100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i.e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 3rd day of January, 1924.

"This is the assessment for the 1st quarter of 1924."

The Secretary reported that he had prepared his regular yearly statement of receipts and disbursements, but was unable to find it with his papers. This report is hereby inserted for purposes of record.

"DISTRIBUTION OF RECEIPTS FOR 1923.

Balance Jan. 1, 1923	$ 972.06	
Assessments	8400.00	
Union Purchase of Allotment	2500.00	
Interest	24.29	
Tap Fees	60.00	
Insurance refunds	6.03	
		$11,962.38

"DISTRIBUTION OF DISBURSEMENTS.

Engineer, salary	1000.00
Chief Inspector, salary	2400.00
Ass't Inspector, salary	1800.00
Secretary, salary and office	422.00
Treasurer, salary	250.00
Executive Committee	115.00
Printing	96.25
Telephone	141.90
Diagrams	192.00
Auto expenses and insurance	368.19
Expense accounts	21.91
Petty Cash, labor,	326.00
Printing Report	1739.10
Miscellaneous	78.63

Bonds and Insurance	88.53	
Audit	75.00	
Counsel	300.00	
Acct. Union Allotment	2500.00	
Balance Dec. 31, 1923	47.87	
		$11,962.38

"SECRETARY'S TRIAL BALANCE.

Cash on hand	$ 47.87	Maintenance Acct.	$197.87
Petty Cash	150.00		
	$197.87		$197.87

The following bills were then read and on roll call passed after being approved by the Auditing Committee. 5 ayes, no noes.

Alexander Potter, Nov. salary,	83.33
C. W. Sandford, Nov. salary,	200.00
J. J. Keating, Nov. salary,	150.00
E. S. Rankin, Nov. salary and office,	35.16
Alexander Potter, December salary,	83.37
C. W. Sandford, December salary,	200.00
J. J. Keating, December salary,	150.00
E. S. Rankin, December salary and office,	35.24
S. H. Rollinson, Oct., Nov., Dec. salary,	62.50
Geo. B. Larney, Salary for 1923,	10.00
Francis Speir, Executive Committee,	20.00
Wellington Campbell, Executive Committee,	15.00
H. R. Van Duyne, Executive Committee,	40.00
H. J. Stanley, Executive Committee,	25.00
Graham King, Executive Committee,	20.00
F. A. O'Connor, Executive Committee,	35.00
E. G. Pringle, Executive Committee,	25.00
Weibezahl Print, Printing minutes	6.50
Washington Ave. Garage, Auto repairs,	36.25
C. W. Sandford, Auto expenses,	28.35
	1,260.70

On motion the meeting adjourned at 8:35 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of February 28, 1924.

A regular meeting of the Joint Meeting was held at the South Orange Village Hall on the above date at 8 P. M.

Those present were Francis Speir, Chairman; Wellington Campbell, Millburn; H. J. Stanley, Irvington; Graham King, South Orange; E. G. Pringle, Summit, and F. A. O'Connor, West Orange.

The Engineer, Treasurer and Inspectors were also present, and Engineer Casey, of Irvington.

The minutes of the last meeting were approved as printed.

Engineer Potter presented the following report which, on motion, was received and ordered printed.

"The Joint Meeting.

"Gentlemen:

"Inspector Sandford reports specific complaints in regard to the surcharging of the sewer at several points. On Springfield Avenue, in the Town of Irvington, the sewer was surcharged to such an extent that it backed up into a deep cellar of one of the houses at 1089 Springfield Avenue, during a heavy rainstorm which occurred about the middle of January. The trunk sewers in Irvington are unquestionably overloaded and no relief can be afforded until such times as additional sewage facilities are provided.

"The inspector also reports a surcharge of the sewer by a stoppage at Halstead Avenue, in South Orange Avenue. Other stoppages have occurred at this place and I think arrangements should be made with the City of Newark to undertake some modifications that will relieve conditions at this point, the original cause dating back from the time when permission was given to the City of Newark to make some modifications in the grade of the sewer.

"The Joint Trunk Sewer having reached its normal capacity, it necessarily follows that at a certain specific point the capacity of the sewer has been over-reached, so that we can expect from now on more such stoppages at various points in the system, and the time is not far distant when it will be necessary to employ a permanent laborer in connection with the maintenance of the sewer because the Inspectors find it difficult at times to procure a man to assist them in cleaning operations. There are a number of minor duties which must be performed which would keep a man employed most of the time.

"It will also be necessary immediately to authorize the purchase of additional supplies for the Inspectors. These supplies including the purchase of 12 new rods, the present rods having been in service for three or four years. He will also require 1,200 feet of ¾" manila rope, six pairs of rubber boots and also some special appliances such as spearheads, spiral screws, etc. The rods now in use cost 65 cents apiece and new rods will probably be slightly in excess of this amount. The rope has been in use for eight or nine years, and much of it has rotted. The total expenditure involved will probably not exceed $250.00, and I recommend that authority be given to the Secretary and the Inspector for the purchase of these materials.

"In regard to new construction, your Engineer had a number of conferences with the officials of the City of Elizabeth. The Engineers of the City of Elizabeth have reported adversely to the Board against granting the right to the Joint Meeting to construct any additional sewer such as is required by the municipalities to take care of their future requirements over the route previously considered.

"Since receiving this information in the early part of January, your Engineer has studied other routes through Elizabeth which would be free from the objections raised by the Engineers to the routes previously considered. This tentative line was submitted to the Board of Public Works of the City of Elizabeth and the City Engineer at a meeting called for that purpose yesterday, and they had expressed a tentative approval to such a line. The construction cost of this line will be in excess of the construction cost in the line previously considered, but in my judgment the amount of money that the City of Elizabeth believes it will require to cover the cost to them of street reconstructions and possible interference with their own public improvements now contemplated or those which may be contemplated in the future will be so much greater upon the former line than over the proposed new line as to largely offset the increased cost of construction.

"I submit herewith a plan showing the proposed tentative line for your consideration. The City of Elizabeth has asked me to submit to them a plan and profile of this proposed line which I propose to do within the next few days. Upon the submission of this line, the Commissioners of the City of Elizabeth have expressed their willingness to agree to set forth terms upon which the right to go through their streets will be granted.

"It is hoped that steps can soon be taken looking to the reorganization of the Joint Body for construction pur-

poses. As I have stated before, at the present time there is nobody in a position to negotiate with any of these municipalities from whom we must secure rights and privileges and I am of the opinion that we have progressed far enough to consider the organization of a body that can deal with these constructive matters.

"The expenses of your Engineer in connection with this project have been very great. At the present time in order to get out the plans, profiles and descriptions of the rights-of-way in sufficient detail to meet the requirements of the law, it becomes necessary for him to employ aditional staff without which it is difficult to make progress looking to the construction work of this important and essential enterprise.

"The matters referred to in the early part of this report are all indications of the necessity of the construction of new sewers which will afford relief not only to the people of the towns, but also to prevent the pollution in the streams which is occurring with greater frequency as the volume of flow in many of the overcharged sewers increases.

"Respectfully submitted,

"ALEXANDER POTTER."

The Engineer submitted a map showing the line as now proposed and explained in detail the necessity for the change. A discussion followed on this and on the matter of reorganizing for construction purposes.

The following motion was then presented by Mr. Pringle:

"Moved that the Engineer and the Special Committee on enlargement be directed to consult with Mr. Riker and have him prepare a form of contract between the Municipalities composing the Joint Meeting to enable them to go forward with the work looking to the enlargement of the existing sewer and to report such form of contract to the Joint Meeting." Carried.

It was moved that the Secretary and Inspectors be authorized to purchase rods, rope, rubber boots, etc., as recommended by the Engineer. Carried, 5 ayes, no noes.

Moved that the matter of the flooded cellar on Springfield Avenue be left in the hands of the Engineer, with power. Carried.

The report of the Treasurer was read and, on motion, received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the third day of January, 1924, the date of his last report, he had on deposit in the Orange National Bank the sum of $519.76 with warrants aggregating $468.61 outstanding so that the total amount of cash on hand on that date was the sum of $51.15.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1,530.00, so that the total amount of cash on hand was the sum of $1,581.15, as shown on Schedule I hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants aggregating $1,198.08 as shown on Schedule II hereunto annexed, so that the total amount of cash on hand at the date of this report is $383.07. Warrants Nos. 3136 to 3139, inclusive, aggregating $468.49 are now outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $851.56

"All of which is respectfully submitted this twenty-eighth day of February, 1924.

"Simeon H Rollinson,

"Treasurer."

SCHEDULE I.

Deposits:			
Jan. 1.	Balance		$ 51.15
21.	Town of Summit	$300.00	
29.	Town of West Orange	300.00	
	Village of South Orange	300.00	
	Tap Fee	10.00	
Feb. 4.	Town of Irvington	300.00	
	Tap Fee	10.00	
5.	Tap Fee	10.00	
11.	Town of Millburn	300.00	
			1530.00
	Total		$1581.15

SCHEDULE II.

Disbursements:		Warrant No.	
Jan. 4.	Francis Speir	3121	$20.00
	Wellington Campbell	3122	15.00
	E. G. Pringle	3123	25.00
	F. A. O'Connor	3124	35.00
	Graham King	3125	20.00
	H. J. Stanley	3126	25.00
	H. R. Van Duyne	3127	40.00
	Geo. B. Larney	3128	10.00
	Weibezahl Print	3129	6.50
	Washington Ave. Garage	3130	36.25
	C. W. Sandford	3131	28.35
31.	Alexander Potter	3132	83.33
	C. W. Sandford	3133	200.00
	J. J. Keating	3134	150.00
	E. S. Rankin	3135	35.16
Feb. 29.	Alexander Potter	3136	83.33
	C. W. Sandford	3137	200.00
	J. J. Keating	3138	150.00
	E. S. Rankin	3139	35.16
			1198.08
	Balance, Cash on Hand		$ 383.07

The following resolution was read and, on roll call, carried, 5 ayes no noes.

"RESOLVED: that the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2100.00 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: that the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 28th day of February, 1924.

"This is the assessment for the 2nd quarter of 1924."

The following bills were then read and, on motion, ordered paid after being approved by the Auditing Committee, 5 ayes, no noes.

Alexander Potter, salary	83.33
C. W. Sandford, January salary	200.00
J. J. Keating, January salary	150.00
E. S. Rankin, January salary and office	35.16
Alexander Potter, February salary	83.33
C. W. Sandford, February salary	200.00
J. J. Keating, February salary	150.00
E. S. Rankin, February salary and office	35.16
Weibezahl Print, Printing minutes	6.60
New York Telephone Co., Service	42.69
Post Co., Lumber	10.08
Barth Teague Co., Tires and tubes	46.95
C. W. Sandford, Auto expense	29.55
C. W. Sandford, Expense account	12.25
J. J. Keating, Expense account	2.36
E. S. Rankin, Secy., Petty cash	84.75

Mr. Speir announced that he was sailing for Spain next week to be gone about two months and that Dr. Campbell would act as Chairman in his absence.

On motion adjourned at 9:40 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of April 10, 1924.

A regular meeting of the Joint Meeting was held in the South Orange Village Hall at 8 P. M. on the above date.

Those present were Dr. Wellington Campbell, Millburn; Messrs. H. J. Stanley, Irvington; H. R. Van Duyne, Newark; Graham King, South Orange, and F. A. O'Connor, West Orange. The Engineer and Inspectors were also present, together with Engineer Casey, of Irvington.

In the absence of Mr. Speir, the Vice Chairman, Dr. Campbell, presided.

Mr. Potter presented the following report, which, on motion, was received and ordered printed.

"April 10th, 1924.

"The Joint Meeting,
"South Orange Village, N. J.
"Gentlemen:

"At the meeting held on February 28th, a motion was made directing the Engineer and the Special Committee on Enlargement to consult with Mr. Riker, to the end that a form of contract be prepared to enable the municipalities to go forward with the work looking to the enlargement of the existing sewer and to report a form of contract to the Joint Meeting. Pursuant to this motion, an effort was made to meet Mr. Riker, but unfortunately, Mr. Riker had been ill for some time and after a serious operation went to Atlantic City to convalesce and did not return until after the middle of March.

"Mr. Riker was kind enough to arrange a meeting with the Committee immediately upon his return, although pressed with other very important matters. As it was a question of fitting in with Mr. Riker's many engagements, it was impossible to give any lengthy notice of the meeting. We therefore were obliged to forego the pleasure of Mr. Stanley's presence at the meeting due to another appointment of his at the same hour. The other two members of the Committee, Mr. Van Duyne and Mr. O'Connor were present.

"At this conference, the whole matter of the contract was thoroughly gone into and Mr. Riker read the various

laws applicable to the situation. He was clearly of the opinion that the Joint Meeting had the full power to form itself into a new body and to include in the new organization such other municipalities as have or will signify their willingness to join with the original municipalities in the construction of a supplementary sewer to tide-water.

"Mr. Riker was of the opinion, however, that before a contract could be drawn, it would be necessary for him to have a description of the line proposed to be followed and also the percentages of the capacity and the percentages of costs to be borne by each of the contracting municipalities to the Joint Trunk Sewer.

"The question as to whether this description as to sizes and cost should be limited to the present members of the Joint Meeting or should include the towns likely to be parties to the Joint Trunk Sewer was freely discussed and it was concluded that an attempt to pass the necessary ordinances limiting the participation in the Joint Trunk Sewer to the present municipalities when there were so many other municipalities who have expressed a desire to join in the new enterprise upon any reasonable terms would be a waste of time, and so your Engineer started the preparation of these descriptions and other data required by Mr. Riker, on the basis of including all towns that con templated construction.

"These descriptions were ready for presentation to Mr. Riker on Monday of this week. Mr. Riker advised me, however, on that day, that his time until the twenty-second would be almost wholly occupied in connection with matters pertaining to the Passaic Valley Sewer and that he could give little time to the consideration of this contract prior to the meeting to-night.

"I submit herewith a copy of these descriptions for the consideration of the Joint Meeting and will especially call attention to some new paragraphs which are not incorporated in the original existing agreement, especially the paragraphs on pages No. 22 to No. 25 inclusive.

"Since the last meeting, your Engineer has had several conferences with the Board of Public Works of Elizabeth and they have informally given their consent to the line as suggested upon the plan submitted at the last meeting, with the understanding that we will immediately purchase land of sufficient area for the construction of a sewage disposal plant independent of the requirements of Elizabeth, they having expressed their opinion that upon a matter of sewage disposal they desire to go alone.

"Elizabeth desires that a formal application for permission to construct a supplementary sewer be made to the Board of Public Works and I would recommend that such an application be made forthwith. One of the principal reasons for this application is that Elizabeth has a big paving program for the ensuing year, in fact, to-day bids are received for the construction of pavements on certain of the streets through which it is proposed to construct this new sewer. Without a formal application from the Joint Meeting the Board of Public Works has no reason to hold up the paving program. It makes no difference upon what street permission is granted, for the residents of that street will naturally object, and it is therefore essential that the City of Elizabeth have some good reason to present to the citizens for their failure to construct pavements that have been petitioned for.

"I have made inquiries of the owners of the land suitable for sewage disposal purposes near the outlet of the sewer and have their assurance that they will be glad to contract with us to sell the land at a reasonable price.

"The sewer as designed is of ample capacity to accommodate the sewage flow from all the towns set forth in the description submitted herewith, and I would urge that the various towns which have signified their desire to become interested in this project be requested to state definitely whether or not they desire to join in this project and that they be also requested to state whether or not the capacity assessed against each of the towns represents the quantity which each desires to take in the joint enterprise.

"The prices set forth in the report are relative figures and may be modified, but I am of the opinion that such modification should not exceed ten per cent. (10%) of the estimated costs shown in the schedule, because of any changed condition from the time the report is submitted.

"The recent heavy storm which occurred on Sunday April 6th, caused the Joint Trunk Sewer to overflow in several places and to flow under pressure over the greater part of its length. The manhole at the upper end of Section No. 1 showed that the sewer at this point was flowing under a head of about three feet. At Turrell Avenue and Meadowbrook Lane, the sewer was backed up to such an extent that the pressure was sufficient to raise the asphalt paving which covered the manhole about three inches. The manholes below Meade Street as well as those on Third Street and on the Pierson Farm, all in Section No. 4, were overflowing.

"In Section No. 5, the sewer was flooded from Sanford and South Orange Avenues to the junction of Sections No. 2, No. 3 and No. 5, while many of the cellars along South Orange Avenue between Sanford Avenue and Brookdale Avenue were filled with water.

"The experience during the past week when the flow in the sewer was so much greater than its capacity, as to result in the sewage backing up and flowing out of the manholes and onto the streets to an extent greater than heretofore, indicates the importance of taking prompt action for the speedy relief of these conditions by constructing a supplementary sewer.

"Respectfully submitted,

"ALEXANDER POTTER."

Mr. Potter explained further regarding the conference with Mr. Riker and progress being made in drawing the contract.

A motion was made and carried that the Chairman be directed to make formal application to the Board of Public Works of the City of Elizabeth for permission to construct a supplementary sewer through that City on the lines already submitted by Mr. Potter.

Mr. Potter stated that the Borough of Roselle Park had expressed a wish to become one of the contracting municipalities, and after some further discussion the motion was made that a conference be held in the near future, the date to be fixed by the Engineer, between the present members of the Joint Meeting and all other interested municipalities in order to determine definitely what municipalities would constitute the new Joint Body and that the Secretary be directed to call such a conference. Carried.

In the absence of the Treasurer, his report was presented by the Secretary.

"TO THE VARIOUS MUNICIPALITIES COMPRISING THE JOINT SEWER MEETING:

"Gentlemen:

"The Treasurer respectfully reports that on the eighth day of February, 1924, the date of his last report, he had on deposit with the Orange National Bank the sum of $851.56 with warrants aggregating $468.49 outstanding, so

that the total amount of cash on hand at the date of that report was the sum of $383.07.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $2730., and has been allowed interest amounting to $3.43, so that the total amount of cash on hand was the sum of $3,116.50 as shown on Schedule I hereto annexed.

"The Treasurer further reports that since the date of his last report he has executed Warrants aggregating $766.22 as shown on Schedule II hereto annexed, so that the total amount of cash on hand at the date of this report is the sum of $2350.28. Warrant No. 3152 for $35.16 is now outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $2385.44.

"All of which is respectfully submitted this tenth day of April, 1924.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE I.

Receipts:		
Balance, Cash on hand, February 8, 1924		$ 383.07
2/21—City of Newark	$600.00	
3/ 4—City of Summit	300.00	
8—Town of West Orange	300.00	
13—Tap Fee	10.00	
17—Village of South Orange	300.00	
21—Town of Irvington	300.00	
22—City of Newark	600.00	
22—Tap Fee	10.00	
24—Township of Millburn	300.00	
4/ 4—Tap Fee	10.00	
3/26—Interest	3.43	
		$2,733.43
		$3,116.50

SCHEDULE II.

Disbursements:

2/29—Weibezahl Print	No. 3140	$ 6.60	
N. Y. Telephone Co.	3141	42.69	
Post Company	3242	10.08	
Barth-Teague Company	3143	46.95	
C. W. Sandford	3144	29.55	
C. W. Sandford	3145	12.25	
J. J. Keating	3146	2.36	
E. S. Rankin, Secr'y	3147	84.75	
3/31—Alexander Potter	3148	83.33	
S. H. Rollinson	3149	62.50	
C. W. Sandford	3150	200.00	
J. J. Keating	3151	150.00	
E. S. Rankin	3152	35.16	
			766.22
Balance, Cash on Hand			$2,350.28

On motion the report was received and ordered printed.

The following bills were then read and on motion ordered paid after being approved by the Auditing Committee. 5 ayes, no noes.

Alexander Potter, March salary	$ 83.33
C. W. Sandford, March salary	200.00
J. J. Keating, March salary	150.00
Edward S. Rankin, March salary and office	35.16
S. H. Rollinson, Jan, Feb. and Mar. salary	62.50
New York Telephone Co., Telephone service	31.27
Travelers Insurance Co., Premium	87.15
C. W. Sandford, Auto expense	17.00
E. S. Rankin, Sec'y, Petty cash	20.00
	$686.41

On motion the meeting adjourned at 9:30 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 5th, 1924.

ANNUAL MEETING.

The Annual Meeting of the Joint Meeting was held in the South Orange Village Hall on Thursday evening, June 5th, 1924, at 8 o'clock.

Those present were: Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; Messrs. E. G. Pringle, Summit; Graham King, South Orange; F. A. O'Connor, West Orange, and I. J. Casey, Irvington. The Engineer, Treasurer and Inspectors were also present.

On motion the minutes of the last meeting were approved as printed.

Mr. Potter presented the following report which, on motion, was received and ordered printed.

"June 5th, 1924.

"The Joint Meeting,
"South Orange Village,
"State of New Jersey.

"Gentlemen:

"At the meeting held April 10th, a motion was made directing the Secretary to call a conference of the various municipalities interested in the enlargement of the Joint Trunk Sewer. Upon consultation with members of the Special Committee, it was decided that until more definite arrangements with the City of Elizabeth had been reached, such conference should properly be delayed.

"Since the last Joint Meeting, your engineer has had numerous conferences with the authorities of the City of Elizabeth, and on May 23rd, a formal meeting was held with the Board of Public Works and the Mayor, to discuss matters in relation to the granting of the right-of-way through the City of Elizabeth.

"At this conference a long petiton was read from property owners along the line of the proposed sewer. The Mayor and Board of Public Works expressed an opinion that nothing could be done until a public hearing was held to give the protestants an opportunity of expressing their opinions.

"This meeting was held at the City Hall of Elizabeth on June 4th, and was largely attended by the property owners along the upper stretches of the new route of the

sewer. There was no valid objection raised to the construction of the sewer along the route as proposed, the criticism being confined to the purely personal one of the temporary inconvenience caused to abutting property owners during the construction of the sewer.

"These objections were met by a frank exposition of the pollution of the Elizabeth River by Sewage (from which the protestants drew their water supply) overflowing from the Joint Sewer manholes and also of the conditions existing in Hillside due to the fact that Hillside is unable to have a sewerage system because of the failure of Elizabeth to grant them a right-of-way through the City.

"Before the conclusion of the meeting, the principal protestants withdrew their objections and I was advised by the members of the Board of Public Works that there was nothing to interfere with the orderly granting of a right to go through Elizabeth and that the arrangement of the details under which the sewers are to be constructed should be worked out at an early date.

"One of the conditions precedent to granting a final right-of-way made by the Engineer of the City was that complete plans of the sewer should be submitted to the City.

"As nothing now stands in the way of an agreement with Elizabeth, I would recommend the calling of the conference authorized at the last session of the Joint Meeting, at a date convenient to the members of the Joint Meeting.

"I have submitted to Mr. Riker the essential engineering data needed by him in drawing up a new contract. Mr. Riker has been confined to Court for some time but at a conference in his office held Tuesday, June 3rd, he promised to have the form of contract ready within the next two weeks.

"Several changes in the present form of the contract have been suggested by members of the Joint Meeting and these are being incorporated in the new contract. In general, however, the new contract will follow substantially the lines of the old contract and I think it is unnecessary to await the receipt of the form of contract from Mr. Riker before calling the meeting, because at such a meeting other modifications of the existing contract might suggest themselves to the various members and any suggestion agreed upon can be incorporated in the new contract as well as those already suggested by the members of the Joint Meeting.

"The Secretary has submitted to me a copy of the complaint from the Union Township authorities concerning the overflow of the trunk sewer in Union Avenue, which is submitted herewith. I have investigated this matter and find that the complaint is a just one.

"There will be no relief from the recurrence of this condition at each successive heavy rainstorm until the new sewer is built.

"There has been so much rain this Spring that the ground is thoroughly saturated and the Inspector reports that we are having the first let-up from the flooded condition of the sewers both in the fourth and fifth sections. All of these things point to the necessity of speedy action in connection with the reconstruction of the sewer.

"There is nothing surprising in the present overcharged condition of the sewer. Twenty-three years ago when the size of the sewer was determined, no one could predict the extraordinary growth of the territory served by the Joint Trunk Sewer. The only surprising thing in my mind is that the municipalities have been able to get along up to the present time without serious results produced by the overloaded condition of the sewer. But it is now essential for all parties concerned to give this important matter their earnest consideration.

"From time to time we have called the attention of the Joint Meeting to the extent to which Irvington and some of the other municipalities were exceeding their capacities in the Joint Trunk Sewer due to the abnormal growth of these municipalities. It should be also noted that these municipalities, while exceeding their capacities, have always been anxious and willing to do their part toward providing greater sewerage facilities to care for their additional requirements.

"I think it only fair to call your attention to the fact that the Township of Maplewood from whom we have had no co-operation looking to the enlargement of the sewer and whose sole opportunity for sewerage has come through rights acquired from other municipalities under no obligation to grant such rights has been exceeding these rights to a far greater percentage than Irvington and the other municipalities have exceeded their quota in the Joint Trunk Sewer.

"Maplewood secured an agreement with South Orange Village to take care of the flowage from five hundred (500) house connections. They are as a matter of fact contributing a flow from over eight hundred (800) house connections under this agreement. They purchased the right

from Millburn for a capacity of 550,000 gallons. On a recent examination of the sewer, they were actualy contributing to the Joint Trunk Sewer over 2,500,000 gallons daily, exclusive of the flowage charged to South Orange Village. It is true that the average flow through the year is less than this amount, but in the operation of a sewerage system we are not so much interested in the average daily flow as we are in the flow over the period of a maximum week.

"The figures of 2,500,000 gallons is not the maximum flow and I am satisfied that during a storm the sewers in Maplewood are contributing to the Joint Trunk Sewer an amount in excess of this.

"If the Joint Trunk Sewer was relieved of this excess discharge from the Maplewood lines, it would reduce the cause for complaints which we are receiving along the line of the sewer.

"In my judgment, Maplewood Township should make some just arrangement with the Joint Trunk Sewer whereby it can relieve our sewer of this additional excess flow and they should be charged a substantial sum for the privilege they are availing themselves of.

"This excess flow is increasing all the time. In my report of 1922, I pointed out that the Township of Maplewood was at that time contributing on an average of more than double the amount that it had originally contracted for, but notwithstanding this fact, Maplewood has made no serious move to co-operate with the other municipalities in the enlargement of the Joint Trunk Sewer.

"Respectfully submitted,

"ALEXANDER POTTER."

Mr. Potter supplemented his report by a further description of the meeting at Elizabeth.

After some discussion relative to the proposed meeting with the other municipalities, it was decided to hold this meeting on June 12th, and the Secretary was directed to invite Hillside, Union, Roselle Park and Maplewood to be represented.

The report of the Treasurer was read and, on motion, received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the tenth day of April, 1924, the date of his last report, he had on deposit with the Orange National Bank the sum of $2,385.44, with Warrant No. 3152 for $35.16 outstanding so that the total amount of cash on hand at the date of that report was the sum of $2,350.28.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $20 as shown on Schedule I hereunto annexed, so that he had cash on hand amounting to $2,370.28.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II hereunto annexed, amounting to $1,092.40, so that the total amount of cash on hand at the date of this report is the sum of $1,277.88; Warrants Nos. 3161, for $83.33, and 3162 for $200.00 are now outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $1,561.21.

"All of which is respectfully submitted this fifth day of June, 1924.

"Simeon H. Rollinson,
"Treasurer."

SCHEDULE I.

April 10, 1924, Balance, Cash on Hand			$2,350.28
Deposits:			
May 29—Tap Fee, Union	$10.00		
" " — " " Mapelwood	10.00		
		20.00	
		$2,370.28	
			$2,370.28

SCHEDULE II.

Disbursements:

		Warrant No.	
April 12—	N. Y. Telephone Co.	3153	$ 31.27
	Travellers Ins. Co.	3154	87.15
	C. W. Sandford	3155	17.00
	E. S. Rankin, Secy.	3156	20.00
	Alexander Potter	3157	83.33
	C. W. Sandford	3158	200.00
	J. J. Keating	3159	150.00
	E. S. Rankin	3160	35.16
	Alexander Potter	3161	83.33
	C. W. Sandford	3162	200.00
	J. J. Keating	3163	150.00
	E. S. Rankin	3164	35.16
			1,092.40
Balance, Cash on Hand, June 5, 1924			$1,277.88

The Secretary was directed to reply to the letter from Union Township that steps were now being taken to enlarge the sewer, which enlargement would eliminate the trouble complained of.

The following Resolution was read and, on roll call, carried. 5 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2,100.00 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i.e., each Municipality paying an equal amount of one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 5th day of June, 1924.

"This is the assessment for the 3rd quarter of 1924."

The following bills were read and on roll call ordered paid after being approved by the Auditing Committee. 5 ayes, no noes.

Alexander Potter, April Salary	$ 83.33
C. W. Sandford, April Salary	200.00
J. J. Keating, April Salary	150.00
E. S. Rankin, April Salary and Office	35.16
Alexander Potter, May Salary	83.33
C. W. Sandford, May Salary	200.00
J. J. Keating, May Salary	150.00
E. S. Rankin, May Salary and Office	35.16
Francis Speir, Executive Committee	15.00
Wellington Campbell, Executive Committee	20.00
E. G. Pringle, Executive Committee	10.00
H. J. Stanley, Executive Committee	20.00
Graham King, Executive Committee	20.00
F. A. O'Connor, Executive Committee	20.00
H. R. Van Duyne, Executive Committee	10.00
Weibezahl Print, Printing Minutes	36.00
John R. Franke Co., Auto Insurance	96.85
C. W. Sandford, Auto Expenses	27.80
C. W. Sandford, Expense Account	4.40
E. S. Rankin, Secy., Petty Cash	20.00
	$1,237.03

The annual election of officers for the ensuing year was then held with the following result, the vote in each case being unanimous:

Chairman - - - - Francis Speir;
Vice Chairman - - Wellington Campbell;
Treasurer - - - - Simeon H. Rollinson;
Secretary - - - - Edward S. Rankin;
Engineer - - - - Alexander Potter;
Counsel - - - - - Adrian Riker;
Chief Inspector - - Corey W. Sandford;
Assistant Inspector - John J. Keating.

A discussion followed as to the date of holding the Annual Inspection and it was finally left to the Chairman to fix the date some time during the current month.

On motion the meeting adjourned at 9:45 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 12, 1924.

SPECIAL MEETING.

A meeting was held on the above date at the South Orange Village Hall at 8 P. M.

Those present were: Francis Speir, Chairman; Wellington Campbell, Millburn; E. G. Pringle, Summit; Graham King, South Orange and I. J. Casey, Irvington, together with the Engineer and Inspectors. On invitation representatives from Hillside, Maplewood, Roselle Park and Union were also present.

Mr. Speir welcomed the visitors and briefly outlined the history of the Joint Sewer and described the steps that were now being taken looking toward its enlargement. He then called on Mr. Potter to explain the engineering features of the project.

An informal discussion followed in which the desire was expressed by a representative from each Town to join in the enterprise.

It was decided to hold the next meeting on June 26th, previous to which time Mr. Potter stated it was expected that the tentative contract would be ready and a copy sent to all municipalities interested.

It was also decided to hold the annual inspection on Friday June 20th.

The Secretary read a letter from the Engineer of East Orange saying that that City was interested and asking under what terms and conditions they would be permitted to enter.

On motion the Secretary was directed to reply inviting East Orange to send representatives to the meeting to be held on June 26th.

On motion adjourned at 10:20 P. M.

EDWARD S. RANKIN,
Secretary.

ANNUAL INSPECTION.

June 20th, 1924.

The Annual Inspection of the Joint Sewer was held on Friday June 20th, 1924.

Those participating were: Francis Speir, Chairman; E. G. Pringle, Summit; H. R. Van Duyne, Newark; H. J. Stanley, Irvington F. A. O'Connor, West Orange, together with the Engineer, Inspectors and Secretary.

Messrs. DeHart of Maplewood, M. A. Fitzsimmons and Ira Redfern of South Orange and I. J. Casey of Irvington, were also present on invitation.

The party left the Newark City Hall at 10 A. M. and proceeded to the outlet at the foot of Bayway. From this point the line of the proposed new sewer was followed as closely as possible, stopping to view the probable site of the future disposal plant.

The point where the connection from Hillside will come in, the junction of the Irvington line with the main trunk and the deep manhole on the tunnel section, were next visited after which a brief but most delightful stop was made at the home of Mr. Speir, who later entertained the party at luncheon at the Orange Lawn Tennis Club.

After lunch an inspection was made of the Venturi meter and other points on the West Orange Line. The line through Maplewood was then visited finishing at the junction of the Summit line.

The party separated at 4:30 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 26th, 1924.

SPECIAL MEETING.

A special meeting of the Joint Meeting to which representatives of outside municipalities were invited to consider the proposed new contract was held on the above date at the South Orange Village Hall at 8 P. M.

Those present were: Mr. Francis Speir, Chairman; Dr. Wellington Campbell, Millburn, and Messrs. H. J. Stanley, Irvington; F. A. O'Connor, West Orange, and Graham King, South Orange, together with the Engineer and Inspectors.

Delegations were also present from each of the following municipalities: East Orange, Hillside, Maplewood, Roselle Park and Union.

After greeting the visitors Mr. Speir introduced Mr. Potter who read the contract and asked for suggestions and criticisms. Remarks were made by representatives from East Orange, Roselle Park, Maplewood and Hillside, the last-named asking that a vote be taken on the question that it be the sense of the meeting that the contract be approved subject to a reservation as to the amount of bonus to be paid by Hillside and Roselle Park. The Chairman ruled that this being a meeting of the Joint Meeting the outside municipalities were not entitled to vote.

Mr. Stanley moved that a roll call be taken on the approval of the general terms of the proposed contract. Carried. The roll was then called with the following result:

West Orange	Aye.
Irvington	Aye.
Millburn	Aye.
South Orange	Aye.
Newark and Summit	Not present.
East Orange	Aye, so far as can be determined in advance of definite action by entire Board. Capacity set forth in contract satisfactory.
Hillside	Aye, capacity satisfactory but considers cash payment too high.

Roselle Park	Aye, subject to adjustment of cash payment.
Maplewood	Aye.
Union	Aye, capacity satisfactory.

On motion it was decided to hold the next meeting on July 17th.

Adjourned at 10:25 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of July 24th, 1924.

A regular meeting of the Joint Meeting was held at 8 P. M. on the above date at the South Orange Village Hall.

Those present were: Mr. Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; Messrs. Graham King, South Orange; F. A. O'Connor, West Orange; H. J. Stanley, Irvington, and E. G. Pringle, Summit; together with the Engineer and inspectors. There were also present by invitation representatives from Roselle Park, Union, Hillside and Maplewood, and members of the governing bodies of Millburn and Summit.

The Secretary read the following letter which on motion was received and referred to the Engineer.

"Mr. Edward S. Rankin, Secretary,
Joint Meeting,
City Hall, Newark, N. J.

"My dear Sir:

"The following resolution, adopted by the City Council on July 14th, was approved by the Mayor on July 16th:

"WHEREAS, the City of Newark, the City of Summit, the Village of South Orange, the Town of Elizabeth, the Town of West Orange, and the Township of Millburn have, for a number of years, been associated in a "Joint Meeting" for the purpose of maintaining and operating for their mutual use and at their mutual expense a joint outlet sewer to convey all or part of the sewage of such municipalities to an outlet at tide water; and

"WHEREAS, such sewer has now become inadequate for their needs and must be enlarged or supplemented, and these municipalities are willing to have other municipalities, suitably situated, join with them on terms of common interest, and have so indicated; and

"WHEREAS, it is deemed advantageous to East Orange to join in this undertaking for the discharge of a portion of the sewerage of the City originating in the territory lying in the Elizabeth River Water Shed;

"NOW, THEREFORE, BE IT RESOLVED, that the City Council does hereby express its determination that East Orange join with the above municipalities and such others as may be admitted in the "Joint Meeting" upon terms to be hereafter agreed upon, for the purpose of enlarging or otherwise increasing the capacity of the joint outlet sewer hereinbefore mentioned, and such other works and apparatus

as shall be deemed proper or necessary pursuant to an act of the Legislature entitled: 'An Act to authorize two or more municipalities of this State to jointly construct and maintain outlet or trunk sewers, and to authorize every such municipality to construct local sewers within its corporate limits connecting with or discharging into such joint outlet or trunk sewers', approved March 15, 1899, and amendments thereto, and to this end the City Council does hereby approve negotiations for a contract between East Orange and the aforementioned other municipalities agreeable to the provisions of said act of the Legislature; and

"Be It Further Resolved, that Mr. William S. Levins Chairman of Sewer Committee, be and he hereby is appointed as the representative of The City of East Orange in the "Joint Meeting" hereinbefore referred to for the purpose of negotiating terms for said contract; and

"Be It Further Resolved, that before any such contract is completed the same be submitted to the City Council for its approval and for such other action as may be necessary in the premises.

"Very truly yours,
"Lincoln C. Rowley,
City Clerk."

The following bills were then read and on roll call ordered paid after being approved by the Auditing Committee. 5 Ayes, No Noes.

Alexander Potter, June salary	$ 83.33
S. H. Rollison, April, May, June salary	62.50
C. W. Sandford, June salary	200.00
J. J. Keating, June salary	150.00
E. S. Rankin, June salary and office	35.16
Alexander Potter, July salary	83.33
C. W. Sandford, July salary	200.00
J. J. Keating, July salary	150.00
E. S. Rankin, July salary and office	35.16
Adrian Riker, Retainer for year and expenses	250.28
N. Y. Telephone Co., telephone service	29.10
	$1278.86

Mr. Potter, being called on, presented a diagram of the sewer showing its several sections together with tables of the length, size and cost to each town of the different sections. He explained at some length how he had arrived at a new figure which Maplewood should pay for the tunnel section. This led to a long discussion on the several private contracts between municipalities and the opinion was expressed that these contracts should all be referred to Mr. Potter and an adjustment made so

that when the new contract was signed they would all be wiped out.

The several municipalities being called on, Mr. Pringle, for Summit, stated that the ordinance had not yet been presented to the council. He had no suggestions except to have all old contracts cleaned up. Mr. King said that the proposed contract had been submitted to the South Orange Trustees and that the form and capacity allotted to South Orange were satisfactory. Dr. Campbell expressed himself as being satisfied with the contract. Mr. Stanley spoke further on the matter of the special contracts. Mr. O'Connor felt that the rights of the four Rahway Valley towns in the tunnel should be settled.

Of the outside municipalities, Union has submitted contract to the Township Committee and declared it satisfactory. Hillside stated that the terms had been agreed on at their last meeting with certain modifications. Roselle Park passed a resolution at their last meeting. The contract was approved, with modifications. Mr. DeHart, for Maplewood, asked that Mr. Potter submit unit prices and a statement that the capacities asked for by the different municipalities were adequate for their needs.

After some further discussion it was agreed that Summit, West Orange, South Orange, Millburn and Maplewood should meet to settle the questions between them as to the tunnel and the contract between Millburn and Maplewood, the meeting to be arranged by Mr. Potter.

On motion the meeting adjourned at 10 P. M. subject to the call of the Chairman.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of August 14th, 1924.

A meeting of the Joint Meeting was held at the South Orange Village Hall on the above date at 8 p.m.

Those present were:

Messrs. H. J. Stanley, Irvington; E. G. Pringle, Summit; F. A. O'Connor, West Orange; Graham King, South Orange and J. Pennoyer, Millburn; Messrs. Berstler of Millburn and Oakes of Summit were also present.

The Chairman and Vice Chairman being absent, on motion of Mr. Stanley, Mr. Pringle presided.

The reading of the minutes of the last meeting was on motion dispensed with.

Mr. Potter being called on, stated that he had no written report, but that the meeting had been called primarily to discuss the Maplewood contracts and what could be done to expedite the beginning of construction.

The Secretary read a resolution passed by the Newark Commission signifying their intention of joining in the project.

After a long informal discussion the following Resolution was moved by Mr. King:

"Resolved that it is the sense of the municipalities composing the Joint Meeting that the Township of Maplewood should provide a capacity in the Joint Trunk Sewer of not less than 7,000,000 gallons including such rights as they may now have, and that the City of Newark should provide a capacity of 15,500,000 gallons including its present capacity so as to make a total capacity for both of not less than 22,500,000 gallons including their present rights and capacity, and that it is the sense of the Joint Meeting that the Municipalities that have heretofore signified their intention to proceed with the enlargement of the sewer take such steps as may be necessary to consummate the contract between the various municipalities and to proceed with the work."

Carried.

The following resolution was then moved by Mr. Stanley.

"Resolved that the proposed contract for the reconstruction and enlargement of the Joint Trunk Sewer should contain a provision not only that any municipality exceeding its allotted capacity shall pay for such excess use to the other municipalities in a manner to be provided for in said contract, but also that if any two or more municipalities having

rights under contracts between themselves shall together exceed the combined capacity of such two or more municipalities, then such municipalities shall pay to the other municipalities for such excess use in a manner to be provided for in said contract regardless of any disputes which they may have between themselves as to their respective responsibilities for such excess use."

Carried.

The Secretary was directed to send a copy of the above resolutions to all of the interested municipalities.

The Secretary presented the following bills which on roll call were ordered paid after being approved by the Auditing Committee. Five ayes, no noes.

A. M. Khun, refund of Tap fee	$ 10.00
Efficiency Press, Stationery	7.75
	$17.75

It was decided to hold a general meeting of all interested municipalities on August 21.

On motion adjourned at 10.35 P.M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of August 21st, 1924.

A meeting of the Joint Meeting was held at the South Orange Village Hall at 8 p.m. on the above date.

Those present were: Messrs. H. J. Stanley, Irvington; F. A. O'Connor, West Orange; J. W. Costello, Newark; Graham King, South Orange and E. G. Pringle, Summit; also the Engineer, Treasurer and Inspector Sanford. On invitation representatives from Hillside, Maplewood, Roselle Park and Union were also present.

Both the Chairman and Vice Chairman being absent the Secretary called for nominations and Mr. Stanley was elected chairman of the meeting.

Mr. Potter being called on explained that the meeting had been called to consider further the old contracts and to try to reach an agreement to go on with the work. The Secretary read the Resolutions passed at the last meeting and the Chairman then called on each of the municipalities for an expression of opinion.

Hillside stated that they were very anxious to have the work started at the earliest possible date; that a resolution had been passed that it was the sense of the Township Committee that they would accept the contract as submitted with a reservation as to the extra amount they should pay.

The representative from Union said they were in entire accord and ready to proceed.

Maplewood expressed itself as entirely satisfied and ready to sign contract.

Roselle Park has passed Resolution signifying their intention of going into the project with a reservation as to extra charge to them.

Mr. Costello stated that Newark had passed a resolution signifying their intention of coming in.

Mr. O'Connor said West Orange was in perfect accord and ready to sign contract.

Mr. O'Connor then moved that contracts be prepared by Mr. Potter and submitted to the several municipalities. On a general roll call this resolution was passed 10 ayes, no noes.

After some discussion as to engaging an Engineer to check Mr. Potter's figures and a suggestion from Mr. Potter that two or three contractors of National reputation be employed to figure the cost of the work, a motion to adjourn to meet on September 11 was put and carried. Meeting adjourned at 10.10 p.m.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of September 11th, 1924.

A meeting of the Joint Meeting was held at the South Orange Village Hall on the above date at 8 P. M.

Those present were Dr. Wellington Campbell, Millburn; Messrs. H. J. Stanley, Irvington; Graham King, South Orange; E. G. Pringle, Summit and F. A. O'Connor, West Orange, together with the Engineer and Inspectors. Representatives from East Orange, Hillside, Maplewood, Roselle Park and Union were also present.

In the absence of the Chairman, Dr. Campbell presided.

The minutes of the last two meetings were approved as printed after which, the Treasurer being absent, his report was read by the Secretary.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the fifth day of June, 1924, the date of his last report, he had on deposit with the Orange National Bank the sum of $1561.21 with warrants aggregating $283.33 outstanding, so that the total amount of cash on hand on the date of that report was the sum of $1277.88.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $2170.00 and has been allowed interest amounting to $11.54, as shown on Schedule I hereunto annexed, so that he had cash on hand amounting to $3459.42.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II hereunto annexed amounting to $1578.91, so that the total amount of cash on hand at the date of this report is the sum of $1880.51.

"All warrants drawn have been presented for payment so that the Treasurer now has on deposit in the Orange National Bank the sum of $1880.51.

"All of which is respectfully submitted this twenty-first day of August, 1924.

Simeon H. Rollinson,
Treasurer.

SCHEDULE I.

Deposits:

6/ 5—Balance, Cash on Hand		$1277.88
6/15—Village of South Orange	$300.00	
Township of Millburn	300.00	
17—Tap Fee	10.00	
City of Summit	300.00	
18—Town of Irvington	300.00	
21—City of Newark	600.00	
7/10—Tap Fees	20.00	
6/19—Town of West Orange	300.00	
8/ 2—Tap Fee	10.00	
11—Tap Fee	10.00	
14—Tap Fee	10.00	
15—Tap Fee	10.00	
		2170.00
8/21—Interest		11.54
		$3459.42

SCHEDULE II.

Disbursements:

	Warrant No.	
6/ 6—Francis Speir	3165	$ 15.00
Wellington Campbell	3166	20.00
E. G. Pringle	3167	10.00
H. J. Stanley	3168	20.00
Graham King	3169	20.00
F. A. O'Connor	3170	20.00
H. R. Van Duyne	3171	10.00
Weibezahl Print	3172	36.00
John R. Fraenke Co.	3173	96.85
C. W. Sandford	3174	32.20
E. S. Rankin, Sec'y	3175	20.00
6/30—C. W. Sandford	3176	200.00
J. J. Keating	3177	150.00
Alexander Potter	3178	83.33
S. H. Rollinson	3179	62.50
E. S. Rankin	3180	35.16
Alexander Potter	3181	83.33
C. W. Sandford	3182	200.00

J. J. Keating	3183	150.00
E. S. Rankin	3184	35.16
Adrian Riker	3185	250.28
N. Y. Telephone Co.	3186	29.10
		$1579.91
Balance, Cash on Hand		$1880.51

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that since the 21st day of August, 1924, the date of his last report, he has made no deposits in the Orange National Bank.

"That he has executed warrants aggregating $486.24, as shown in Schedule I below, so that the cash on hand at the present time amounts to $1394.27.

"Warrants Nos. 3189, 3190 and 3192, aggregating $318.49, have not been presented for payment, so that the Treasurer has on deposit in the Orange National Bank the sum of $1712.76.

"All of which is respectfully submitted this 11th day of September, 1924.

Simeon H. Rollinson,
Treasurer.

SCHEDULE I.

Aug. 21—Balance, Cash on Hand (No deposits)	$1880.51

SCHEDULE II.

Disbursements:

	Warrant No.	
Aug. 30—A. M. Kuhn	3187	$ 10.00
Efficiency Press	3188	7.75
Alexander Potter	3189	83.33
C. W. Sandford	3190	200.00
J. J. Keating	3191	150.00
E. S. Rankin, Sec'y	3192	35.16
		486.24
September 11, 1924, Balance, Cash on Hand		$1394.27

On motion report was received and ordered printed.

Mr. Stanley moved that the Secretary be directed to arrange for an audit of the books from the date of the last audit to date in order to start with a clean slate when the Joint Meeting is reorganized. Carried.

The Secretary presented the following resolution:

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i.e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 11th day of September, 1924.

"This is the assessment for the 4th quarter of 1924."

Carried, 5 ayes, no noes.

The following bills were then read and, on roll call, ordered paid after being approved by the Auditing Committee. 5 ayes, no noes.

Alexander Potter, August salary	$ 83.33
C. W. Sandford, August salary	200.00
J. J. Keating, August salary	150.00
E. S. Rankin, August salary and office	35.16
Weibezahl Print, Printing minutes	54.00
C. W. Sandford, Expense account	14.23
C. W. Sandford, Auto expenses	38.20
J. J. Keating, Expense acocunt	6.52
E. S. Rankin, Secy, Petty cash	75.00
	$656.44

Mr. Potter then presented the revised ordinance, explaining some of its new provisions particularly the method arrived at in fixing the cost to Hillside and Roselle Park.

After further discussion Mr. Stanley presented the following motion:

"Moved that it is the sense of the meeting that the ordinance as presented be submitted to the various governing bodies for adoption with a view to entering into a contract for the construction of the new Joint Sewer in accordance with the provisions therein stated."

On roll call all municipalities present voted aye.

On motion adjourned at 9:45 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of October 23, 1924.

A regular meeting of the Joint Meeting was held on the above date at the South Orange Village Hall, at 8 P. M.

There were present:

Mr. Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; and Messrs. H. J. Stanley, Irvington; J. W. Costello, Newark; Graham King, South Orange; E. G. Pringle, Summit; and F. A. O'Connor, West Orange; together with the engineer, Treasurer and Inspectors.

On invitation the following gentlemen also attended:

Messrs. Thomas E. Martin, Richard S. Earle, Donald H. McLean, James F. McCarthy, C. H. Luster and John E. Trousdell of Hillside; Wm. S. Levins and W. D. Willigerod of East Orange; John E. Brigham of Summit; W. L. Edwards of Union; J. D. McCollum, E. R. Halsey, G. H. Wilson and James Pennoyer of Millburn; J. S. DeHart, Wm. A. Law, E. Hornbeck, E. H. Harleman, Frank M. Rudolph and Charles R. Moore of Maplewood; Mr. Jerome Congleton, Counsel of Millburn, and Mr. J. C. Harding of Fuller and McClintock were also present.

The minutes of the last meeting were approved as printed.

Mr. Stanley said that there had been some criticism as to the minutes not giving a complete record of what took place at the meetings and suggested that while the new project was being discussed that a stenographer be employed to take down a full report of the meetings. Mr. Pringle opposed the suggestion on the ground of the expense and because he considered it unnecessary. He was supported by Mr. King and Dr. Campbell. Mr. Pringle also urged the attendance at the meetings of the other members of the governing bodies, so that they could obtain all the information at first hand. He also raised the question as to how the expense would be borne. The Chairman thought that it could be paid from the Maintenance Account.

After further discussion Mr. Stanley moved that a Committee of two be appointed by the Chair with power to engage a stenographer to attend such meetings as it may seem advisable to have him attend.

On roll call the vote stood

Irvington	Aye
Millburn	No
Newark	Aye
So. Orange	No
Summit	No
West Orange	Aye

The Secretary announced that the vote was a tie and the Chairman cast the deciding vote in favor of the motion. He then appointed Messrs. Stanley and Costello as the Committee.

The report of the Treasurer was read and on motion approved and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The treasurer respectfully reports that on the 11th day of September, 1924, the date of his last report, he had on deposit in the Orange National Bank the sum of $1712.76, with warrants Nos. 3189, 3190 and 3192, aggregating $318.49 outstanding, so that the total amount of cash on hand at the date of that report was the sum of $1394.27.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1800 and has been allowed interest, amounting to $11.78, as shown on Schedule I hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II hereunto annexed, amounting to $718.94, so that the total amount of cash on hand at the date of this report is the sum of $2487.11. Warrants previously outstanding have been presented for payment, so that the Treasurer has on deposit in the Orange National Bank the sum of $2487.11 with no warrants outstanding.

"All of which is respectfully submitted this 23rd day of October, 1924.

"Simeon H. Rollinson,
"Treasurer."

SCHEDULE I.

Deposits:

Sept. 11	1924 Balance		$1394.27
16	City of Summit	$300.00	
17	Town of Irvington	300.00	
19	Town of West Orange	300.00	
25	Town of Millburn	300.00	
Oct. 18	City of Newark	600.00	
			1800.00
Oct. 23	Interest, allowed by Bank		11.78
	Total		$3206.05

SCHEDULE II.

Disbursements:		Warrant No.		
Sept. 12.	Weibezahl Print	3193	$54.00	
	C. W. Sandford	3194	52.43	
	J. J. Keating	3195	6.52	
	E. S. Rankin, Secy	3196	75.00	
30.	Alexander Potter	3197	83.33	
	Simeon H. Rollinson	3198	62.50	
	C. W. Sandford	3199	200.00	
	J. J. Keating	3200	150.00	
	E. S. Rankin	3201	35.16	
				718.94
	Balance, Cash on Hand, October 23, 1924			$2487.11

The following bills were then read and on roll call ordered paid being approved by the Auditing Committee. 6 ayes no noes.

Alexander Potter, Sept. salary	83.33
S. H. Rollinson, 3rd quarter salary	62.50
C. W. Sandford, Sept. salary	200.00
J. J. Keating, Sept. salary	150.00
E. S. Rankin, Sept salary and office	35.16
Alexander Potter, Oct. salary	83.33
C. W. Sandford, Oct. salary	200.00
J. J. Keating, Oct. salary	150.00
E. S. Rankin, Oct. salary and office	35.16

American Surety Co., Treasurer bond	20.00
Travellers Ins. Co., additional premium	40.20
N. Y. Telephone Co., service	27.58
Weibezahl Print, printing minutes	15.00
C. W. Sandford, Auto expenses	17.10
E. S. Rankin, Secy., Petty Cash	25.00
	1144.36

The Secretary read a letter from the Township of Millburn asking for data regarding the new sewer. As this information had already been furnished by Mr. Potter the letter was received and ordered filed.

On motion the meeting adjourned at 8:35 P. M. and a General Conference with the other municipalities was called.

On Mr. Stanley's inquiry as to the purpose of the meeting Mr. Speir replied that the several municipalities would be called on to say what progress was being made in passing the ordinance.

Dr. Campbell stated that Millburn was not entirely satisfied and had engaged Messrs. Fuller and McClintock, Consulting Engineers, to pass on the plans and estimates.

Mr. O'Connor said that West Orange had passed the ordinance on first and second reading and felt that Millburn should be asked to state their objections. Mr. Congleton, Township Counsel, said that the matter had been given serious consideration by the Township Committee who felt that professional advice was needed. He then read the report of Fuller and McClintock.

Engineering Offices
FULLER & McCLINTOCK
170 Broadway, New York

Philadelphia
1001 Chestnut St.

Kansas City
600 Walnut St.

Toledo
Summit Cherry Bldg.

Memphis
879 North Parkway.

"October 14, 1924.

"Township Committee,
"Millburn, N. J.

"Gentlemen:

"In accordance with our agreement with your Committee as expressed in a cummunication of September 18, we have examined available data for the construction of a supplementary Joint Sewer Outlet for certain municipalities in Essex and Union Counties and discharging into the Arthur Kill at Elizabeth, N. J.

"We have been furnished by Mr. James Pennoyer with a copy of the blue print plan of the proposed sewer and with a report of Mr. Alexander Potter dated 1922. Mr. Potter has furnished us with his report of 1910 and other data regarding length and depth of sewer line and local data.

"We have examined much of the route of the proposed sewer on the ground and have carefully studied Mr. Potter's reports and the proposed ordinance required by the 1910 Laws of the State of New Jersey. Our findings are as follows:

"ROUTE

"We believe that the route for the sewer selected by Mr. Potter is the best available and is preferable to a sewer in the Rahway Valley or other locations studied by Mr. Potter.

"SIZE AND CAPACITY

"We have checked the grades and capacities of the proposed sewer and find that the quantities of sewage to be provided for at different points along the line of the Trunk Sewer have been given proper consideration. We note that the quantity allowance from the various municipalities is considerably larger than is ordinary engineering practice, and this is due according to Mr. Potter to excessive infilteration of ground water and to direct connections be-

tween catch basins and rain water leaders from buildings. This excesive amount of ground water and rain water not only increases the size of the sewers, but will ultimately mean increased size of disposal work structures, practically in proporation to the amount of infiltration. This will be an expense item and is apt to run to amounts from 100 to 200 per cent. in excess of requirements for normal treatment works capacities.

"Accurate data to be used as a check on the capacity allowance for the various municipalities could not be obtained in the short time allowed us for this investigation, but is well worthy of study. The elimination of ground water at places where such infiltration is unreasonable might measurably reduce the cost of sewerage and disposal works for the Joint Municipalities.

"ORDINANCE

"The ordinance submitted to us is generally in line with the requirements of the 1910 Laws, although we would call your attention to two items:

"We note that the ordinance in several places couples the construction of sewage disposal works with the Joint Sewer construction. We understand that such work is not contetmplated at the present time, although undoubtedly it will soon be required. We think that it should either be omitted in this ordinance or else provisions be made in appropriations for such construction.

"On page 18 and following Section VIII of the ordinance, the question of payment by a municipality for the use of capacity in excess of that paid for by it and provided by the Joint Meeting is discussed. It would appear from this section that the cost for the use of excess capacity would date from the time that such excess capacity is used by a municipality. It would seem that the original cost represented by sinking fund and interest charges for any sewer capacity used by any municipality, should date back to the period of construction because the cost of such capacity should not be borne by a municipality which has never used it, but by the user.

"ESTIMATES OF COSTS

"We find that profiles, soundings, test pits or other definite information at the exact location of the new sewer were not obtained previous to the making of the estimates for cost of the new Trunk Sewer. On Section 1, mostly through the City of Elizabeth, this is particularly important as the new sewer is located some 900 feet from the original

sewer and it is not unreasonable to suppose that conditions may differ in the two locations. There is no criticism of Mr. Potter intended in this statement as we understand that no funds have been made available for his use by the municipalities.

"On the incomplete information obtainable, we estimate that the cost of the work as stated on the data sheet atached to the blueprint copy of the Joint Outlet Sewer as $2,516,600, will be in round numbers $3,400,000.

"RECOMMENDATIONS

"We would recommend that sufficient time be given Mr. Potter for a careful investigation of all natural features in connection with the construction of these works and that a reasonable fee be given him so that this work can be carried out in an intelligent manner. It seems unreasonable to us to proceed with the construction of work of such magnitude, several million dollars, without a careful investigation of all matters in connection with the capacity of the works and the cost.

"Very truly yours,
"FULLER & MCCLINTOCK.
"By James C. Harding."

Mr. Congleton added that Millburn had no wish to delay the matter but desired fuller and more definite information and also the first cost and cost of maintenance of the future disposal works.

In reply, Mr. Potter read the following report:

"October 21, 1924.

"The Joint Meeting.
"Gentlemen:

"As you are aware, the Township of Millburn engaged the services of a Consulting Engineer to advise them generally on the soundness of the conclusions reached by me in the report submitted two years ago and afterwards printed, and as to the propriety of the form of contract which was submitted to the various towns comprising the Joint Meeting several months ago, which contract has been revised at the suggestion of the various members from time to time. The principal criticism made by the Consulting Engineers employed by Millburn is that the estimates made by me are too low, that instead of the work costing $2,516,600, it will cost $3,400,00.

"The report of these Engineers has in no wise caused me to change my opinion. It is true that the instability of common labor during the past few years has rendered it well nigh impossible to set down any set of figures as representing probable costs that would not be exceeded in the final estimate. As labor represents 80% of the total cost, directly or indirectly, the importance of this statement cannot be over emphasized.

"A very important change has and is taking place and many cases can be cited in which the quantity of work done by laborers in a day is more than double the work accomplished by the average laborer a year or two years ago. It is unquestionably true that this change has come about as a result of a labor surplus and is noticeable in districts where there is no greater than a 2% surplus labor supply. I am of the opinion that it will continue to exist for the next several years because all economists agree that the peak of prices has been reached and that all signs point to a marked decrease in the price of all commodities.

"The statement made above as to the actual amount of work now being performed by labor indicates that the reduction of prices will not be gradual over a period of years but that there will be a substantial decrease in the relatively near future. This is indicated in all recent lettings of contracts conducted under fair specifications. I feel, therefore, that as our estimates both of labor and material have recently been increased 25% over those of two years ago, the estimates submitted by me are perfectly safe.

"This is especially true since this increase of 25% includes the cost of both labor and material which material constitutes nearly 50% of the cost, whereas we can secure at the present time these materials at lower prices than they could have been purchased for two years ago. There is no inconsistency in the statement that labor represents 80% of the cost and that the material used in the construction represents 50% of the cost because the material brought upon the ground is in itself largely made up of labor and the fact that you can buy this material today cheaper than we could two years ago is added evidence as to the soundness of my position that labor is much more stable today.

"I have from time to time submitted my plans and estimates to certain qualified contractors for their personal judgment and they have considered my figures safe. Since being informed of the report of the special engineers called in by Millburn, I have asked these contractors, whom I had previously consulted, to give me their written opinon as to the sufficiency of my estimates and have asked them to

express their willingness to undertake this work at these figures. This they have done and copies of their letters are submitted herewith.

"We have also asked these contractors to confer with their bonding houses and so far Spiniello and Martin-Miller Company have secured agreements from bonding companies to write a bond for them if, on public letting, they bid at the figures stated in their tentative proposals.

"Without in any way voicing a criticism against the Engineers employed by the Township of Millburn, there is this to be said: that their experience in construction work in the area covered by this project is limited, whereas the three contractors named and from whom proposals have been received are well and favorably known to practically all of the municipalities who are interested, directly or indirectly, in the construction of this sewer.

"The names of these three contractors are as follows: H. L. Harrison & Sons, of Newark, Martin-Miller Company of Pitman and Caldwell, N. J., and the Spiniello Construction Company of Newark, N. J. H. L. Harrison & Sons have been successful contractors in New Jersey for the last thirty-five years, having constructed the second and sixth sections of our Joint Trunk Sewer and having at various times constructed sewers for West Orange, East Orange, Irvington, Roselle, Linden, Elizabeth, and Newark. They are one of the few contractors employed in the construction of the Passaic Valley Sewer who were able to complete their work at a profit, having been awarded about 15 independent contracts for construction of certain portions of this sewer. They are at present constructing about $250,000 worth of sewers for the City of Newark.

"The firm of Martin-Miller is an old and established concern of reputable sewer contractors who have the reputation of finishing their work irrespective of conditions and prices for which work has been received. They have constructed work in Maplewood, Roselle Park, Elizabeth, Roselle, Linden, Maywood and Garfield and other sections of the eastern part of New Jersey and there is no city by whom they have been employed where they do not enjoy an excellent reputation. Their work has also taken them to all parts of the United States.

"The Spiniello Construction Company have been employed in the construction of sewerage systems in Elizabeth, Linden, Roselle Park, Roselle, Union Township, Irvington, Maplewood, West Orange, East Orange and other municipalities. They were also connected with the Passaic Valley Sewer either directly or as Superintendent of Construction.

They have actually built lateral sewers across the territory traversed by the proposed sewer in Section 1. The character of all these three firms is best portrayed when a bonding company stands ready to give them a bond for the faithful performance of their contract at the prices stated by them in the letters submitted herewith.

"Messrs. Fuller & McClintock are of the opinion that the route selected for the sewer is the best available and is preferable to a sewer in the Rahway Valley or other locations studied by me. They have also checked the grades and capacities of the proposed sewers and are satisfied that the quantities of sewage to be provided for at different points along the line of the Trunk Sewer have been given proper consideration.

"I can see no advantage, therefore, in prolonging the period of preliminary investigation before getting down to the serious business of obligating the various towns to a construction program. The State Board of Health has been long suffering tolerating conditions grossly unsanitary simply because they have been assured that the Joint Meeting has been investigating the various methods of solving this problem.

"The municipalities have no other alternative than to go ahead with the scheme. Personally I have no objection whatever to the adoption of the suggestion made in the recommendation to Millburn that the Engineer be given additional compensation to make further studies, explorations, borings, etc., before any of the towns are committed or obligated to proceed with the work, for any such agreement must necessarily carry with it the payments of obligations already incurred and it is well known that for the services rendered during the past two years your Engineer has received no compensation whatever and any appropriation now made must of necessity cover proper compensation for work already performed. When we consider the frightful condition existing in Hillside, and the equally unsanitary condition existing in certain parts of Irvington and other municipalities, due to the backing up of sewage as well as conditions along the Rahway Valley, I believe that the time has come when the municipalities must commit themselves to the construction of this work and rely upon the judgment of their Engineer and have confidence that their long years of experience with him will assure them that he will keep the cost of any necessary works down to the lowest possible amount.

"Mr. Harding's criticism in reference to the amount of infiltration in existing sewers in eastern New Jersey indi-

cates a lack of familiarity with conditions existing all through this territory whether the towns be those included in the Joint Trunk Sewer or whether they be in other parts of the State. Any honest appraisement or investigation made of the actual discharge from sewers through this territory will indicate the necessity for caring for the quantities set down in my report. If means can be adopted whereby this infiltration can be reduced, then we must have constructed a sewer with a longer length of life than that planned and therefore of greater value.

"I have already recommended the elimination of ground water leakage at certain known points and an experience of over twenty-five years in the study of this problem has perhaps given your Engineer the right to judge the conditions to be encountered better than anyone else. The excess flow which the towns are calling upon to provide for is not leakage in the sewers themselves; the big bulk of it comes from the connection to the sewers and the infiltration and seepage around the foundations of houses.

"This is a condition which exists and which must be met with. It is true that we can make more drastic regulations in the future, but this means that the Joint Meeting must have greater control not only of the main sewers but also all the laterals and house connections in the various municipalities. This is, of course, a situation requiring drastic regulation and it will be difficult to secure legislation to consummate it, but the experience of the past must not be lost sight of in planning for the needs of the future.

"In regard to sewage disposal, your Engineer has advised you from time to time that sooner or later, some method of sewage disposal must be installed, but he has been of the opinion that the construction of a sewage disposal plant might be delayed for a period of five years or more, depending upon the demands of the Federal and State authorities. The City of Newark has raised the question that as a sewage disposal is inevitable, they would prefer knowing what additional sums might be necessary for the construction of the sewage disposal plant if and when required. Your Engineer was of the opinion that as New York City is installing sewage screens at the various outlets along the waterfront as a solution of the disposal problem, the installation of screens would satisfy any reasonable demands that might be made upon our district in the way of the installation of the sewage disposal plant for some time.

"On the other hand, the State and Federal authorities have insisted that the Passaic Valley install sedimentation

tanks with a retention period of the sewage of 1½ hours and that the tanks should be so designed that the velocity of flow through the tanks should not be greater than one half of an inch per second. A system of disposal by sewage screens can be installed for $250,000 which will handle the sewage without any increase in the plant for the next fifteen or twenty years, whereas sedimentation tanks built according to the rule laid down by the Federal and State authorities will cost $500,000. These figures are based upon the experience of the Passaic Valley Sewer, adding to the actual cost of the Passaic Valley's plant an amount which, in the opinion of the Chief Engineer of the Passaic Valley sewer, will meet present day standards.

"The experience of ten years since these plants were designed has developed methods of handling the accumulated sludge so as to afford greater economies in design and operation. The figure used in this report can be considered a conservative one.

"We have a decided advantage over the Passaic Valley Sewer in that our sedimentation tanks can be constructed so as to eliminate all pumping charges, for we can gravitate the sewage through the tanks and screens. The cost of disposing of the sludge, however, will be as great per ton of sludge handled as the Passaic Valley's cost. The cost of disposing of 3,000 tons of sludge per week in the Passaic Valley sewer is about $6,500 per month. The cost of disposing of the sludge from the Joint Trunk Sewer at the present time will be about $1,300 per month, which amount will gradually increase from year to year at the rate of about $300 per month. It was to avoid this high maintenance expense of disposing of the sludge that your Engineer has, in his reports, suggested the postponing of the sewage disposal plant as long as possible. However, as this question has been so seriously raised the question of increasing the estimate of immediate expenditure so as to include the construction of the sewage disposal plant should receive your careful consideration.

"Respectfully submitted,
"ALEXANDER POTTER."

MARTIN-MILLER COMPANY

Engineering Contractors
Machinery and Supplies

Home Address,
Caldwell, N. J.

October 21, 1924.

"Mr. Alexander Potter,
"Consulting Engineer,
"50 Church Street,
"New York.

"Dear Mr. Potter:

"In accordance with your request, we have carefully examined the plans prepared by you for the Joint Trunk Sewer project covering the sanitary drainage of the municipalities embraced within the Joint Trunk Sewer district. We also familiarized ourselves on the ground, especially the first section where the new sewer follows a different alignment from the old sewer and we have also analyzed your list of quantities, amount of rock, quicksand, etc., and are in substantial agreement with you as to the amount that will be encountered in the construction of the work. In the construction of the Linden, Roselle and Roselle Park sewers in the vicinity of the upper portion of Section #1 as now proposed, we gained knowledge of the formation of the soil which gives us definite information as to soil conditions not otherwise obtainable.

"We estimate the total construction cost to be the sum of $2,247,000 (two million two hundred and forty seven thousand dollars) and we will agree to submit a bona fide bid on the various sections which you designate, at prices aggregating less than this amount with the understanding that this estimate is based upon the current price levels for materials and labor. Should these price levels appreciably change at the time when bids are formally called for, our estimate would be modified accordingly.

"We may say that we have observed during the past three months a distinct improvement in the efficiency of our labor force engaged on similar construction. This, we attribute to the fact that there is, at this writing, more labor of the class required for this work being offered than has been the case for a number of years. As this condition,

if continued, would affect not only the efficiency but ultimately the price of labor also, we are inclined to believe that the peak of labor costs has been passed and that we can look forward to gradually lowering labor costs on this class of construction, and as the labor item is always a major factor in the cost of sewer and drainage systems, we believe that municipal officers and their engineering counsel can go forward with confidence that the projects they have in contemplation may be undertaken without any apprehension on their part that present costs will be exceeded and with the reasonable hope and expectation that they may be somewhat lowered.

"We cannot refrain from complimenting you on the comprehensive engineering study your plans present. It is rare to find a project of this nature and scope so carefully worked out in all its details. We doubt if you or, for that matter, any engineering authority would have been able to solve the problems involved so competently and successfully without the intimate and constant attention which you have given to the drainage and sanitary problems of this amazingly growing area for so many years.

"The whole enterprise is a very interesting one, both from an engineering and a construction standpoint. It is particularly so to Mr. Miller and myself, as we have specialized in this class of construction for the past thirty years and who constructed, under your supervision, portions of the existing sewer system. We sincerely hope when the enterprise has reached the construction stage that you will keep us informed so that we may have the opportunity of making a formal bid for the construction of the work involved.

"Yours very truly,

"MARTIN-MILLER COMPANY,
"H. C. Martin."

Telephone Market 0784

SPINIELLO CONSTRUCTION COMPANY

General Contractors and Engineers

185 Market Street

Newark, N. J. Oct. 22nd, 1924.

"Mr. Alexander Potter,
"Consulting Engineer,
"50 Church Street,
"New York City.

"Dear Sir:

"We understand from your request that you do not desire from us a detailed estimate including our opinion of the value of the various units entering into the construction of this work, but simply an outside figure for what we would be willing to bid the entire work.

"We will undertake to submit a proposition for constructing the various sections of the J. T. Sewer which, in the aggregate, will be less than $2,125,000. We are of the opinion that your estimates on some of the sections are higher than necessary, but others are lower, but, taking them as a whole, we are of the opinion that your estimate is more than 15% higher than it should be. We understand however, that your estimates include engineering and other costs, which we have not taken into consideration in making the above bid.

"We believe that our actual experience in sewer construction through this entire territory justifies us in making this proposal and thus endorsing the esimtates that you have made. We are at present constructing sewers in Linden and Elizabeth practically over the new right of way of the 1st section and the information obtained from this actual construction is far better and more reliable than the information secured from any number of borings that might be made.

"We have constructed large storm sewers throughout the most difficult part of Irvington, Union Township and Sanitary Sewers in Maplewood, and feel satisfied that the list of quantities that you have submitted to us and as shown upon your profiles fairly represent the amount that will be actually encountered. Our experience in sewer construction justifies our stating that we believe that labor costs are on a surer footing today than any time during the past five or six years.

"We hope that this work can be gotten under way before Winter as work let during that time will give lower unit costs both of labor and material than at any other time during the year.

"Yours very truly,
"SPINIELLO CONSTRUCTION COMPANY,
"By Virgilio Spiniello,
"President."

H. L. HARRISON & SON, INC.
31 Clinton Street
Telephone 1896 Mulberry
H.. L. Harrison, Pres. and Treas. S. D. Harrison, Secy.
Newark, N. J., Oct. 22nd, 1924.

"Mr. Alexander Potter,
"Consulting Engineer,
"50 Church St.,
"New York.
"Dear Mr. Potter:

"You have submitted to us plans and profiles of the Joint Trunk Sewer.

"Beginning at the present terminus of the existing Joint Trunk Sewer and with the exception of the first section it parallels the existing J. T. S. You have submitted to us your estimates of quantities including quantities of rock and quicksand which we have roughly checked against the original figures. Our experience in sewer construction in Linden Township and Elizabeth and our knowledge of the ground enables us to verify in a general way the quantities set down for Section #1 also.

"Based upon this information and upon current prices, we would be willing to enter into a contract to construct the Joint Trunk Sewer as proposed by you, for a sum not exceeding $2,200,000. We take it that this work will be let in a number of sections. We are of the opinion that while on the whole, the construction work can be done at approximately 90% of your estimate of the total cost, that on certain sections, this percentage will vary.

"Yours very truly,
H. L. HARRISON & SON, INC.
"H. L. Harrison,
"Pres. & Treas."

Mr. O'Connor asked on what the estimate of $3,400,000 was based to which Mr. Congleton replied that it was based on Mr. Potter's profiles. Mr. Harding who wrote the report stated that he had arrived at his estimate by using Mr. Potter's quantities with his own unit prices. He stressed the necessity of more accurate information as to the character of the soil.

Mr. O'Connor asked if a sewer built in 1902 cost a certain sum, what would be the cost of the same sewer today. Mr. Harding answered from 75 to 100% more. Mr. Potter making due allowance for the increased size figured the cost of the sewer on this basis at $2,500,00.

Mr. King said "We can not know the exact cost until the bids are received. The sewer has got to be built, so let us go ahead."

Mr. DeHart stated that at the last meeting he had asked for a vote on proceeding with the work which was carried unanimously. He had voted aye with the understanding that if the cost exceeded the estimate they would not be bound by the contract and urged that the work proceed.

Mr. Costello stated that Newark had as yet taken no action for the reason that no figures had been submitted for the disposal plant.

Mr. Stanley said that Irvington had submitted the contract to the Corporation Counsel and was waiting for his opinion.

Mr. Willigerod for East Orange said the ordinances and report had been submitted to their Counsel and by him to a committee. The ordinance would probably be introduced at the next meeting. He was satisfied with Mr. Potter's estimate.

Mr. King reported that South Orange had introduced the ordinance and that it would be ready for passing on October 27th.

Mr. McLean said that the ordinance had been presented to the Hillside Township Committee and had passed second reading and would be ready for final passage early in November. He asked for permission to enter the old sewer at once.

Mr. Edwards stated that Union had passed the ordinance on first and second readings.

The motion was made that the counsels of the several Municipalities meet with Mr. Riker to discuss the contract and agree on final terms, the meeting to be arranged by Mr. Potter. Carried.

Mr. Potter recommended that the request of Hillside to connect with the existing sewer on Bayway pending the formulation and signing of the contract for the new sewer, be given favorable consideration. The permission to be subject to the consent of Elizabeth and the waiving of any claim by Elizabeth by reason of their capacity being affected. He stated that this connection would in no way affect the discharge of sewage from any of the joint municipalities by reason of the backing up of sewage in the main trunk or laterals within their territory. He also stated that Hillside would be willing to pay for this temporary agreement any reasonable sum that might be fixed by the Joint Body.

The General Conference then adjourned at 11.10 P. M. and the Joint Meeting reconvened.

Mr. Stanley moved that the reports of Messrs. Fuller & McClintock and of Mr. Potter, together with the contractor's letters be incorporated in the minutes. Carried.

Mr. Stanley further moved that it be recommended to the various municipalities comprising the Joint Meeting that Hillside be allowed to temporarily connect with the existing sewer on Bayway at such points as may be designated by the Engineer, provided consent be first obtained from the City of Elizabeth. Carried.

On motion the meeting adjourned at 11:15 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of November 20th, 1924.

A regular meeting of the Joint Meeting was held in the South Orange Village Hall on the above date at 8 P. M.

Those present were Mr. Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; and Messrs. H. J. Stanley, Irvington; E. G. Pringle, Summit; Graham King, South Orange and F. A. O'Connor, West Orange. Inspectors Sandford and Keating were also present and Mr. Hess representing Mr. Potter.

Representatives from Maplewood, Hillside, and Roselle Park were also present on invitation.

Mr. Spier stated that Mr. Potter had met with an accident and that he had attempted to call the meeting off, but was unable to get in touch with the Secretary.

The minutes of the last meeting were approved as printed.

In the absence of the Treasurer, his report was presented by the Secretary.

"To the Various Municipalities Comprising the Joint Sewer Metting:

"Gentlemen:

"The Treasurer respectfully reports that on the 23rd day of October, 1924, the date of his last report, he had on deposit in the Orange National Bank the sum of $2,487.11, with no warrants outstanding, so that the total amount of cash on hand at the date of that report was the sum of $2,487.11.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $310.00, as shown on Schedule I hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II hereunto annexed, amounting to $613.37, so that the total amount of cash on hand at the date of this report is the sum of $2,183.74. Warrants Nos. 3202, 3210, and 3211 aggregating $125.43 are still outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $2,309.17.

"All of which is respectfully submitted this 20th day of November, 1924.

"Simeon H. Rollinson,
"Treasurer."

SCHEDULE I.

Deposits:			
Balance, Cash on hand, Oct. 23, 1924			$2487.11
Oct. 27.	Village of South Orange	$300.00	
30.	Tap fee, Springfield	10.00	
			310.00
			$2797.11

SCHEDULE II.

		Warrant No.	
Disbursements:			
Oct. 31.	Alexander Potter	3202	$ 83.33
	C. W. Sandford	3203	200.00
	J. J. Keating	3204	150.00
	E. S. Rankin	3205	35.16
	American Surety	3206	20.00
	Travellers' Ins.	3207	40.20
	N. Y. Telephone	3208	27.58
	Weibezahl Print	3209	15.00
	C. W. Sandford	3210	17.10
	E. S. Rankin, Sec'y	3211	25.00
			613.37
Balance, Cash on hand, Nov. 20, 1924			$2183.74

On motion the report was received and ordered printed.

The Secretary then made a statement of receipts and expenditures, party estimated, for the current year showing that there would probably be a balance of about $600.00 at the close of the year.

Mr. Stanley advocated putting an additional $700 into the budget for 1925 to provide for extra engineering expenses and stenographer's fees. After some discussion the following resolution was presented and on roll call carried, 4 ayes, 1 no.

"Whereas, in accordance with Chapter 175 of the State Laws of 1919, the Joint Meeting shall before the first day of December in each year make an estimate and determine the cost and expense of maintaining and operating such public improvement for the year beginning the first day of January then next, and shall cause the same to be certified by the Secretary of the Joint Meeting to each of the Muncipalities contracting for said improvements;

"Therefore be it resolved, that the Joint Meeting hereby estimates and determines the cost and expense of maintaining and operating the Joint Outlet Trunk Sewer for the year beginning January 1, 1925, to be the sum of $8400.00, and the Secretary is hereby directed to mail a copy of this resolution to each of the municipalities represented in the Joint Meeting."

A discussion followed as to what disposition should be made of the stenographic reports. It was finally moved that one copy be sent to each member of the Joint Body and one to Mr. Potter. Carried.

The Secretary was directed to have the minutes printed as usual.

Mr. Stanley brought up the question of the audit of the books and on motion it was decided to postpone the audit until later.

The following bill was read and on motion ordered paid after being approved by the Auditing Committee. 5 ayes, no noes.

Goldsmith Bros.	Guage charts	$6.00

It was then moved, seconded and carried that the meeting adjourn to meet in two weeks.

Adjourned at 9:30 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of December 4, 1924.

A meeting of the Joint Meeting adjourned from November 20th was held at the South Orange Village Hall on the above date.

The meeting was called to order by Chairman Speir at 8 P. M., the others present being Dr. Wellington Campbell, Millburn; and Messrs. H. J. Stanley, Irvington; J. W. Costello, Newark; Graham King, South Orange; E. G. Pringle, Summit; and F. A. O'Connor, West Orange. The Engineer and Inspectors were also present and representatives from Maplewood, Hillside, Union and Roselle Park.

The minutes of the last meeting were approved as printed.

The Secretary presented the following bills which on roll call were ordered paid after being approved by the Auditing Committee. 5 Ayes and no noes.

Alex. Potter, November salary	$ 83.33
C. W. Sandford, November salary	200.00
J. J. Keating, November salary	150.00
E. S. Rankin, November salary and office	35.16
Francis Speir, Executive Committee	35.00
Wellington Campbell, Executive Committee	35.00
H. J. Stanley, Executive Committee	45.00
Graham King, Executive Committee	45.00
F. A. O'Connor, Executive Committee	50.00
E. G. Pringle, Executive Committee	45.00
J. W. Costello, Executive Committee	15.00
H. R. Van Duyne, Executive Committee	5.00
J. Pennoyer, Executive Committee	5.00
I. J. Casey, Executive Committee	5.00
Weibezahl Print, Printing Minutes	58.40
Efficiency Press, Stationery	9.50
C. W. Sandford, Auto Expenses	32.50
	$853.59

The Joint Meeting then adjourned and the General Conference called to order.

Mr. Potter being called on read the following report:

December 4, 1924.

"The Joint Meeting.

"Gentlemen:

"My views on the question of the sufficiency of the plans already submitted for the purpose of giving the various municipalities information to justify their commitment to the project are well known to the representative of the various municipalities. I have been of the opinion that until the various towns entered into a contract to construct the work, further engineering expenses could be avoided. This position was taken by me, first, because I was of the opinion that the law required no further investigations, surveys, plans and specifications at this time, also because the representatives of some of the municipalities were opposed to the expenditure of any additional sums until a contract had been entered into between the various municpalities looking to the construction of the work.

"As to the need of making further investigations, plans, surveys, and detailed drawings prior to the construction of the work, your Engineer is on record as pointing out the necessity of such additional work.

"At a meeting of the attorneys representing the various municipalities, it seemed to be the opinion of these gentlemen that the statutes require much more additional information in the way of detailed plans, surveys, boring, etc. than have already been submitted and Mr. Congleton, representing Newark and Millburn, was emphatic in expressing his opinion that neither of the municipalities he represented would proceed any further until more detailed surveys, plans, specifications and estimates were prepared, not only of the Trunk Sewer, but also of a sewage treatment plant as well. Mr. Congleton followed up this by a written request to the State Board of Health inquiring of them the method of sewage disposal they would first require, and also asking how soon it would be before still further treatment would be required

from the various municipalities. As a result of this inquiry on the part of Mr. Congleton, the State Board of Health appointed a sub-committee to investigate this matter together with the application from Hillside for permission to enter the Joint Trunk Sewer in accorance with the resolution passed at the last October meeting.

"This Committee met in Newark on Monday the 17th of November, and invited your Engineer to be present. There was present at this conference Director Costell, of the State Board of Health, Secretary Merrill, and Messrs. Lafferty and Harder, members of the Committee, together with Mr. Congleton, representing Millburn and Newark, Mr. Williams, counsel for Maplewood, Mr. McLean of Hillside, and myself.

"The Committee desired that we visit the outlet of the sewer and also the site of the proposed disposal plant. They also desired to visit the congested district of Hillside, which desires relief through connection with the Joint Trunk sewer. As a result of this conference, the State Board of Health has requested that a plan and estimate of cost of the sewage purification plant be submitted to them before action can be taken, looking to the granting of a permit for the discharge of additional sewage into Arthur Kill.

"In view of all these facts, it would seem essential that the towns included within the district to be served by this supplemental sewer must appropriate funds with which to make these more complete plans, borings and specifications, which are required by certain of the towns as a condition precedent to their proceeding further with the project. The determination of a proper charge for this service is a difficult one.

"The usual and ordinary fee for engineering service of this class is from 1½ to 2% of the estimated cost of the work. On the assumption that the sewers will cost roughly $2,500,000. and the sewage disposal plant, such as I hope will be acceptable to the State, about $500,000, there is a total cost of $3,000,000. for the project, roughly speaking. On the basis of 1½% the total and usual engineering fees for work up to the beginning of construction would be $45,000 and on a basis of 2%, $60,000. This sum would cover all preliminary expenses for engineering heretofore made. There has been paid for preliminary surveys two years ago approximately $6000, if my memory serves me correctly, which should be deducted from this amount.

"It is also true that while the representative from Maplewood believes these plans should be sufficiently accurate and comprehensive to receive bona fide bids from all contractors expressing a desire to bid on the work, or in fact, all necessary plans needed, I feel satisfied that much of the engineering work essential before construction begins need not be included in the work to be done and under these circumstances, I believe that a payment of $15,000. should enable me to make surveys and plans sufficiently comprehensive in their nature to meet not only the requirements outlined by the attorneys as required by law, but also to meet the desires of the State Department of Health and any reasonable requirements made by any of the municipalities.

"As to the distribution of expense of this investigation, plans and surveys, I am of the opinion that each of the towns now embraced within the Joint Meeting, on the theory that the members of the Joint Meeting have already incurred a considerable expense in connection with this matter from time to time and the towns outside the Joint Meeting, up to this time, have not been required to contribute a dollar of expense in connection with any of these investigations which your Engineer has been conducting and for which, during the period of the last two years, he has received no compensation whatever although the work has been arduous.

"There are six municipalities in the Joint Meeting and five municipalities outside of the Joint Meeting, four of which are now utilizing the Joint Trunk Sewer. On the theory that these five towns should pay double what the six towns in the Joint Meeting should pay, we would then have a total of six plus twice five or sixteen parts into which the expense should be divided, or $937. for each part. The towns in the Joint Meeting therefore would pay $937. each, while the five towns outside the meeting would pay $1874. each as their contribution to the expense. I await action of the Joint Meeting.

"The press indicates that the State Department of Health has granted permission to the discharge of sewage from Hillside into the Joint Trunk Sewer provided proper terms can be effected between Hillside and the Joint Trunk Sewer pending the construction of the supplementary sewer. I would recommend the appointment of a Committee to take up the question of terms with Hillside for the privilege of this temporary discharge into the Joint Trunk Sewer. Of course, it is understood that the City of Elizabeth also will grant a permit for this discharge from Hillside.

"The State Board of Health has deferred action on the establishment of a policy for purification of sewage along the tidal waters.

"Respectfully submitted,
"ALEXANDER POTTER."

A genearal discussion of the report followed, Mr. Congleton bringing out the point that it was necessary to comply strictly with the provisions of the law as otherwise there might be difficulty in disposing of the bonds. In answer to a question Mr. Potter stated that three months would probably be required to complete the surveys. Mr. Potter also stated that Mr. Willegerod of East Orange had told him that his city would be willing to contribute their proper share of any money required for the preliminary work.

The report of the Engineer was then on motion received and ordered printed.

Mr. Pringle moved that a copy of the Engineer's report be included in the stenographic report of the meeting. Carried.

The matter of the Hillside connection was then taken up, Mr. Potter stating that Hillside has received permission from the State Dept. of Health and from the City of Elizabeth to make the connection. This was confirmed by Mr. Martin of Hillside. It developed that none of the municipalities had as yet presented the matter to the governing bodies in accordance with the motion passed at the meeting of Oct. 23rd.

Mr. Pringle moved that the question of Hillside's making a temporary connection with our sewer upon consent of Elizabeth and State Dept. of Health be referred to Counsel for the Joint Meeting with the request that he advise us as to the proper procedure to be followed by the Joint Meeting and each Municipality, and furnish us with the necessary form of action to be taken. Carried.

Mr. Pringle then moved that a committee be appointed to take up with the Engineer the subject of the charge that should be made against Hillside and paid by it for this temporary connection with our sewer and to report to the Joint Meeting, and

also to furnish this report as rapidly as possible to our Counsel. Carried.

The Chair appointed Messrs. Stanley, Pringle and Costello as the Committee.

Mr. O'Connor moved that the recommendation of the Engineer that the six municipalities comprising the Joint Meeting be called on to pay $937.50 each and the other five municipalities $1875.00 each be referred to the several municipalities for approval. Unanimously carried.

Mr. Stanley moved that a certified copy of the above resolution be sent by the Secretary to each of the municipalities with the recommendation that they take appropriate action to raise the money. Unanimously carried.

The Joint Meeting then reconvened and the following Resolution was presented by Mr. O'Connor.

Resolved that the recommendation of the Engineer that the six municipalities now comprising the Joint Meeting pay $937.50 each and that the five others who contemplate joining in the new sewer pay $1875.00 each for the purpose of defraying the cost of preparing preliminary plans and estimates for the construction of a new sewer, be referred to the several municipalities for approval. Carried, all voting aye.

Mr. Stanley then moved that a certified copy of the foregoing resolution be sent by the Secretary to each of the municipalities comprising the Joint Meeting and also to each of the other interested municipalities with the recommendation that they take appropriate action to raise this money. Carried.

There being no further business the meeting adjourned at 9:30 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of January 8, 1925.

A regular meeting of the Joint Meeting was held in the South Orange Village Hall on the above date at 8 P. M.

Those present were Mr. Francis Speir, Chairman; Dr. Wellington Campbell, Millburn; and Messrs. H. J. Stanley, Irvington; Graham King, South Orange; E. G. Pringle, Summit; and F. A. O'Connor, West Orange. The Engineer and Inspectors were also present.

The minutes of the last meeting were approved as printed.

Mr. Potter presented his regular report as follows:

"January 8, 1925.

"The Joint Meeting:

"Gentlemen:

"Your Engineer has continued his studies in connection with the designs for a Supplementary Sewer and has paid particular attention to matters of sewage disposal. He has not, however, felt justified in putting upon this work the corps of engineers that a complete study of the problem demands until such time as all the interested municipalities pass the resolution authorizing the expenditure of money necessary to make this investigation, as recommended by the Joint Meeting.

"If any efforts can be exerted by the Joint Meeting to secure prompt action on the part of the towns interested in the reconstruction of the sewer to pass the resolution, I think it should take these steps.

"The Inspector reports that nothing of importance regarding the maintenance of the Joint Trunk Sewer has developed since the previous meeting.

"At the last meeting it was reported that the State Department of Health had authorized Hillside to connect with the Joint Trunk Sewer under an agreement satisfactory to all parties concerned.

"While it was a fact that such consent had been granted, official confirmation of their action was not received until several days later by the Secretary, a copy of which was forwarded directly to me by the Department of Health, reading as follows:

" 'Trenton, Dec. 4, 1924.

" 'Mr. Edward S. Rankin,
" 'Secretary of Joint Meeting,
" 'City Hall,
" 'Newark, N. J.

" 'Dear Mr. Rankin:

" 'Application of the officials of Hillside Township Union County, for permission to discharge sewage into the present Joint Outlet Trunk Sewer was considered by the State Department of Health at its meeting on December 2nd, and I am sending for your information copy of letter forwarded to Donald H. McLean, Esq., Counsel for said Township, informing him of permission granted by our Department.

" 'During consideration of the application of Hillside Township, report was made in reference to the present Joint Outlet Trunk Sewer and motion was made and carried that this Department respectfully request the Joint Committee having charge of the Joint Outlet Trunk Sewer to permit Hillside Township to use their present trunk sewer and to notify said Joint Meeting that whether they permit Hillside Township to connect with their sewer or not this Department feels that it will be necessary for them to construct a new trunk sewer in the near future.

" 'In accordance with the above mentioned action of our Department I am sending this notice to you as Secretary of the Joint Meeting.

" 'Very respectfully,
" 'H. B. Costell,
" 'Director.'

"A letter was also sent to Mr. Donald H. McLean, Counsel for Hillside, reading as follows:

" 'STATE DEPARTMENT OF HEALTH.

" 'Trenton, N. J. Dec. 4, 1924.

" 'Mr. Donald H. McLean,
" '286 N Broad Street,
" 'Elizabeth, N. J.

" 'Dear Mr. McLean:

" 'Application submitted by you on behalf of Hillside Township for permission to discharge sewage from said township into the present Joint Trunk Outlet Sewer was again taken up for consideration by the State Depart-

ment of Health at its meeting on December 2nd, together with the opinion just received from the Attorney General concerning this case and I was requested to notify you that motion was made and carried that permission be granted to Hillside Township in response to the application of the officials of said township to connect their sewers with the Joint Outlet Trunk Sewer provided plans for said sewers are first submitted to and approved by this Department.

"'We are sending copy of this letter showing the permission granted by this Department to Edward S. Rankin, Esq., Secretary of the Joint Meeting and also to Alexander Potter, C. E., Engineer.

"'You will also find enclosed for your information, copy of letter just forwarded from this office to Mr. Rankin in reference to the Joint Outlet Trunk Sewer.

"'Very respectfully,

"'H. B. Costell,

"'Director.'

"In their notification addressed to the Secretary of the Joint Meeting, the State Department of Health pointed out that whether or not permission is granted to Hillside that the Joint Meeting will be required to take speedy action looking to the increase in the sewerage facilities afforded the towns embraced in the Joint Meeting.

"Respectfully submitted,

"ALEXANDER POTTER."

On motion the report was received and ordered printed.

Mr. Potter then gave an outline of the Resolution prepared by Mr. Riker to be passed by the several municipalities to provide for the raising of $15,000.00 in order to complete the plans and estimates for the new sewer. In Mr. Riker's opinion this Resolution should go directly to the municipalities and not to the Joint Meeting.

The Secretary reported that Mr. Rollinson had been called away due to illness in his family and read his report which had been forwarded to him.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the 20th day of November, 1924, the date of his last report, he had on deposit in the Orange National Bank the sum of $2309.17 with warrants aggregating $125.43 outstanding, so that the total amount of cash on hand at the date of that report was the sum of $2183.74.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $10.00 and has been allowed interest to the amount of $9.02, as shown on Schedule I. hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II. hereunto annexed, amounting to $1390.80, so that the total amount of cash on hand at the date of this report is the sum of $811.96. Warrants Nos. 3231 and 3232 totaling $283.37 are still outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $1095.33.

"All of which is respectfully submitted this 8th day of January, 1925.

"S. H. Rollinson,
"Treasurer."

SCHEDULE I.

Nov. 20—Balance, Cash on Hand		$2,183.74
Deposits:		
Dec. 20—Tap fee for Union	$10.00	
Jan. 7—Interest from Bank	9.02	
		19.02
		$2,202.76

SCHEDULE II.

Disbursements:	Warrant No.		
Nov. 21—Goldsmith Brothers	3212	$ 6.00	
Alexander Potter	3213	83.33	
C. W. Sandford	3214	200.00	
J. J. Keating	3215	150.00	
E. S. Rankin	3216	35.16	
Dec. 5—Francis Speir	3217	35.00	
Wellington Campbell	3218	35.00	
H. J. Stanley	3219	45.00	
Graham King	3220	45.00	
F. A. O'Connor	3221	50.00	
E. G. Pringle	3222	45.00	
J. W. Costello	3223	15.00	
H. R. Van Deuyne	3224	5.00	
J. Pennoyer	3225	5.00	
I. J. Casey	3226	5.00	
Weibezahl Print	3227	58.50	
Efficiency Press	3228	9.50	
C. W. Sandford	3229	32.20	
S. H. Rollinson	3230	62.50	
Alexander Potter	3231	83.37	
C. W. Sandford	3232	200.00	
J. J. Keating	3233	150.00	
E. S. Rankin	3234	35.24	
			$1,390.80
Total amount of cash on hand			$ 811.96

On motion the report was received and ordered printed.

The Secretary presented the letters received from the State Board of Health which had already been included in Mr. Potter's report. On motion the Secretary was directed to acknowledge their receipt.

The Secretary then read a communication from East Orange which on motion was received and ordered printed in the minutes and the receipt acknowledged.

"December 11, 1924.

"Mr. Edward S. Rankin, Secretary,
"Joint Meeting,
"Newark, N. J.

"My dear Sir:

"The following resolution, adopted by the City Council on December 8th, was approved by the Mayor on December 10th:

"'WHEREAS, East Orange has determined to join with other municipalities in the construction of a supplementary joint trunk sewer in the Elizabeth River Valley, and to that end become a member in the Joint Meeting, and

"'WHEREAS, the six municipalities, heretofore members of the Joint Meeting, have thus far borne the entire expense of the investigations, plans, estimates, etc., necessary to the project, and the Joint Meeting now finds additional expenditures for engineering, investigations, and plans in the amount of approximately $15,000 is advisable, and has determined that an equitable division of this cost calls for a payment of $1875. by each of the five municipalities desiring to become members of the Joint Meeting and parties in the construction of the said Joint Trunk Sewer, as expressed by resolution adopted by the Joint Meeting at its meeting December 4th, 1924,

"'NOW, THEREFORE, BE IT RESOLVED that said action of the Joint Meeting be concurred in and the sum of $1875. apportioned as the share of this city for the above purposes be paid to the Joint Meeting at such time as may be certified to by the Sewer Committee of the City Council, and that the said sum be paid from the Sewer Maintenance funds provided for in the budget for 1925.'

"Very truly yours,
"LINCOLN E. ROWLEY,
"City Clerk."

The following resolution was presented and on roll call carried. 5 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal

amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the eighth day of January, 1925.

"This is the assessment for the 1st quarter of 1925."

The Secretary then presented his annual report of receipts and disbursements which on motion was received and ordered printed.

DISTRIBUTION OF RECEIPTS FOR 1924.

Balance Jan. 1, 1924	$ 47.87	
Tap fees	170.00	
Assessments	8400.00	
Interest	30.03	
		$8647.90

DISTRIBUTION OF DISBURSEMENTS FOR 1924.

Executive Committee	$ 580.00	
Stationery and Minutes	193.85	
Auto Expense	273.40	
Engineer's salary	1000.00	
Inspector's salary	2400.00	
Asst. Inspector's salary	1800.00	
Secretary's salary and office	422.00	
Treasurer's salary	250.00	
Telephone service	130.64	
Expense Accounts	39.76	
Petty Cash (Labor Acct.)	224.75	
Insurance	224.20	
Counsel retainer	250.00	
Refund tap fee	10.00	
Miscellaneous	46.08	
		$7844.96
Balance on Hand Jan. 1, 1925		802.94
		$8647.90

SECRETARY'S TRIAL BALANCE.
Dec. 31, 1924.

Petty Cash	$150.00	Maintenace Acc't.	$952.94
Cash	802.94		
	$952.94		$952.94

The following bills were read and on roll call ordered paid after being approved by the Auditing Committee. 5 ayes, no noes.

S. H. Rollinson, Oct., Nov., Dec. salary	$ 62.50
Alex. Potter, Dec. salary	83.37
C. W. Sandford, Dec. salary	200.00
J. J. Keating, Dec. salary	150.00
E. S. Rankin, Dec. salary and office	35.24
Geo. Glickfield, Refund of tap fee	10.00
Geo. B. Larney, Salary for 1924	10.00
	$551.11

The Secretary read a proposed Legislative Act and Ordinance which has been recommended by the representatives of the Passaic Valley municipalities. It was moved that it be referred to Mr. Potter and that a committee be appointed with whom Mr. Potter may consult, they to consider the matter and take such action as they may consider to be for the best interest of the Joint Meeting. Carried. The Chair appointed Messrs. O'Connor and Stanley as the Committee.

On motion the meeting adjourned at 9:20 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of March 5th, 1925.

A regular meeting of the Joint Meeting was held in the South Orange Village Hall on the above date at 8 P. M.

Those present were Dr. Wellington Campbell, Millburn; Messrs. Graham King, South Orange; J. W. Costello, Newark; E. G. Pringle, Summit; H. J. Stanley, Irvington, and F. A. O'Connor, West Orange. The Engineer and Inspectors were also present.

Chairman Speir being absent on account of illness, Dr. Campbell, the Vice Chairman, presided.

The minutes of the last meeting were approved as printed.

The report of the Engineer was deferred until the general meeting of all municipalities interested in the new project.

The Secretary read a letter from Mr. Rollinson expressing his regret at his unavoidable absence after which the report of the Treasurer was read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the 8th day of January, 1925, the date of his last report, he had on deposit in the Orange National Bank the sum of $1095.33, with warrants aggregating $283.37 outstanding, so that the total amount of cash on hand at the date of that report was the sum of $811.96.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $1200.00, as shown on Schedule I hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants as shown on Schedule II hereunto annexed, amounting to $956.98, so that the total amount of cash on hand at the date of this report is the sum of $1054.98. Warrants Nos. 3235 and 3242, totaling $210., are still outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $1264.98.

"All of which is respectfully submitted this 5th day of March, 1925.

"Simeon H. Rollinson,
"Treasurer.

"*SCHEDULE I.*

Balance of Cash on Hand		$ 811.96
Deposits:		
Jan. 19—Village of South Orange	$300.00	
20—Township of Summit	300.00	
26—Town of West Orange	300.00	
30—Township of Millburn	300.00	
		$2011.96'

"*SCHEDULE II.*

Disbursements:	Warrant No.	
Jan. 9—George B. Larney	3235	$ 10.00
George Glickfield	3236	10.00
30—Alexander Potter	3237	83.33
C. W. Sandford	3238	200.00
J. J. Keating	3239	150.00
Edward S. Rankin	3240	35.16
Feb. 27—Alexander Potter	3241	83.33
C. W. Sandford	3242	200.00
J. J. Keating	3243	150.00
Edward S. Rankin	3244	35.16
		956.98
Balance, Cash on Hand, March 5, 1925.		$1054.98"

The matter of the payment of the Larney bill which was passed at the last meeting, but later held up at the request of Mr. Stanley, was on motion referred to Mr. Potter with power.

Several members spoke of the necessity of having further advice from Counsel before proceeding further and it was moved, seconded and carried that Mr. Riker be requested to be present at the next meeting, the time and place of such meeting to be at his convenience.

The following bills were read and ordered paid after having been approved by the Auditing Committee, 6 ayes, no noes.

Alexander Potter, January salary	83.33
C. W. Sandford, January salary	200.00
J. J. Keating, January salary	150.00
E. S. Rankin, January salary and office	35.16
Alexander Potter, February salary	83.33
C. W. Sandford, February salary	200.00
J. J. Keating, February salary	150.00
E. S. Rankin, February salary and office	35.16
Weibezahl Print, Printing minutes	51.00
New York Telephone Co., Telephone service	26.19
C. W. Sandford, Expense Account	12.79
C. W. Sandford, Auto expenses	63.44
	$1090.40

It was stated that the towns which have already passed the resolution appropriating the money for the detailed plans and estimates were Millburn, Union, Maplewood, East Orange, West Orange, Roselle Park and Hillside.

On motion the meeting adjourned at 9:15 P. M. and the General Meeting called to order, representatives from Hillside, Roselle Park and Union being present.

On motion Dr. Campbell was selected as Chairman.

Engineer Potter then presented his report.

"March 5, 1925.

"The Joint Meeting.

"Gentlemen:

Last week Commissioner Stanley of Irvington received from Attorney Stewart a copy of the resolution prepared and finally approved by a Committee representing the attorneys of the towns interested in the reconstruction of the Joint Trunk Sewer which they agreed should be passed. The resolution submitted to the towns now forming the Joint Trunk Sewer differed from the resolution to be passed by the outside towns in that the former resolution contained obligations to grant certain privileges to the towns seeking admission into the Joint Trunk Sewer and Commissioner Stanley took the stand that Irvington would not pass this resolution prior to its consideration by the Joint Meeting. The consideration of this resolution, therefore, is the primary cause for this evening's meeting.

"The resolution as finally drafted, in my judgment, contains nothing that could be objected to by the Members of the Joint Meeting and in this respect it differs materially from the preliminary draft prepared for passage. Since this meeting was called, another important matter has arisen which requires serious consideration upon the part of the members of the Joint Meeting as well as all of the towns interested in the reconstruction of this sewer, for at the conference held in Newark on March 3rd of the Committee to consider the granting of the temporary connection to Hillside, whose report is to be presented to-night, I was advised by Mr. Costello that Commissioner Raymond opposes the payment of Newark's share of the $15,000, amounting to $937.50, and I am sure that Mr. Raymond's objection is founded on a misunderstanding of the situation, but, inasmuch as it is essential for the speedy construction of any such joint project that there be a meeting of the minds of all parties concerned, the line of least resistance will be for the members interested in this project to use all honorable means to secure the cooperation of Newark in this enterprise which, in the past, has served Newark and the other cities so well at such a modicum of cost.

"There can be no discussion that the enlargement of the sewer is not an immediate necessity. The high flows in the sewers not only pollutes the streams used as water supplies, but also causes a backing up of the sewage into the cellars of houses along the lines of the sewers in many places. The pollution of the streams and the backing up of the sewage in the cellars has been known to the Health authorities but it has been tolerated because it was assumed that all of these towns were working in a concerted effort to bring about as speedily as possible the reconstruction of this sewer.

"I have been recently notified of the existence of certain by-pass connections whereby certain of the cities contributing to the Joint Trunk Sewer have found relief from these intolerable conditions by permitting the discharge of sewage from the Joint Sewer into streams used for drinking purposes. The maintenance of these connections is a violation of the law and I had no other recourse than to close them. The result of the closing of these connections wrought serious damage to houses in certain sections along the line of the Joint Trunk Sewer and laterals. I find that these connections have been again opened without authority of anyone connected with the Joint Meeting and I have no other recourse than to order them closed again.

"The surcharging of the sewer is a natural thing at times and to be expected, for the sewer has more than fulfilled the purpose for which it was constructed. In the case of Irvington, for instance, the sewer was designed when Irvington had a population of 4,500 people and it was with difficulty that we were able to convince the authorities that they should make provision for a population of 17,500. When we realize that today the population of Irvington is between 40,000 and 50,000 and when we remember that Irvington does not stand alone in these abnormal rates of increased growth, it is simply impossible to expect a sewer designed on any such basis to serve so much in excess of the estimate made 25 years ago.

"It is unfortunate that the towns are obliged to spend any additional sums for the reconstruction of this sewer, but such expenditure is inevitable. The City of Newark has been hard hit in connection with the Passaic Valley and the Wanaque projects and Director Raymond is fearful that Newark will be involved in a similar excessive cost, but even admitting, for the sake argument, that the Fuller & McClintock estimates of the cost will be reached, it will cost Newark three times as much, according to Mr. Rankin, engineer of Newark, to provide its own additional facilities than it will to join forces with the other municipalities in the Joint Meeting.

"I feel, therefore, that no greater duty confronts those interested in the Joint Trunk Sewer than to wait in a body upon Mr. Raymond and endeavor to convince him that he is serving the people of Newark best by agreeing to go along in this enterprise, reserving to himself the right, if he chooses, as every town has, to have the figures of the Engineer of the Joint Trunk Sewer revised and criticized by any engineer or group of engineers that any of the towns or all of the towns, acting singly or in a body, desire to secure in order that the estimates submitted may be verified and checked.

"I would, therefore, suggest that, instead of a Committee, representatives of all the towns interested, call upon Mr. Raymond, for without Newark's cooperation in this matter it will be necessary to secure additional legislation for this project which will, perhaps, require another year of unnecessary delay on a project already delayed years beyond the time that steps should have been taken looking towards its reconstuction.

"The report of the Inspectors during the last few weeks discloses a horrible condition existing along the line of the Joint Trunk Sewer and the towns are morally obliged to adopt that method of procedure which will relieve the

present situation at the earliest possible moment. I am sure that when Mr. Raymond sees this matter in its proper light he will not force independent action by the City of Newark at double or treble the cost for similar service simple because in the past cooperation with other towns has been so expensive to the City of Newark, but even in this particular an exception must be made in the case of the Joint Trunk Sewer, for neither in first construction cost nor in the cost of maintenance has the City of Newark suffered by reason of its joining with the other towns forming the Joint Meeting.

"Already delays since last Fall have resulted automatically in substantially increasing the estimated cost on such matters as promises of a deferred paving program through the City of Elizabeth, to which we no longer can hold Elizabeth. The tentative offer made for the land for the disposal plant has been withdrawn and further delay means added cost in many unexpected directions.

"Respectfully submitted,

"ALEXANDER POTTER."

This report was on motion received and ordered printed in the minutes.

At the request of Mr. Stanley, the Secretary read the Resolution prepared by the Sub-Committee of Attorneys for presentation to the several municipalities together with the letter from Mr. Williams, the Chairman of the Sub-Committee. Mr. Stanley felt that the written opinion of Mr. Riker should be obtained on this resolution before its presentation and made a motion to this effect. This motion was later withdrawn in order to prevent more delay in the matter.

Counsel McLean of Hillside explained the steps which had led up to the preparation of the Resolution. He also went at length into the deplorable conditions existing in Hillside and made a most earnest plea for the immediate construction of the sewer.

In response to this the representatives from Summit, South Orange, Irvington and Newark promised to try to have the Resilution passed at the next meeting of their Governing Bodies.

For the Committee appointed on the immediate entry of Hillside into the existing sewer, Mr. Stanley, the Chairman, reported progress.

On motion the meeting adjourned at 10:40 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of March 16th, 1925.

Pursuant to a motion made at the last meeting, a meeting was held in the office of the Counsel, Adrian Riker, Esq., 164 Market Street, Newark, N. J., on the above date, at 3 P. M.

There were present Dr. Wellington Campbell, Millburn; Messrs. H. J. Stanley, Irvington; Graham King, South Orange; E. G. Pringle, Summit; F. A. O'Connor, West Orange, and Engineer Potter.

The meeting took the form of an informal discussion on the several problems relating to the construction of the new sewer, Mr. Riker answering the questions asked by the members of the Joint Meeting.

In Mr. Riker's opinion unless all of the municipalities came into the new project, the only way the sewer could be enlarged would be to form a new Joint Meeting composed of those who desired to come in. He also said that if Mr. Potter was willing there would be no legal objection to his going ahead with the plans without waiting for all of the towns to pass the Resolution.

In answer to a question, Mr. Riker said that he would consider it essential for the Counsel to attend every meeting during the construction and that he would be glad to continue as Counsel if his health permitted.

After some further talk the meeting adjourned at 4:15 P. M.

EDWIN S. RANKIN,
Secretary.

Joint Meeting of April 9, 1925.

A regular meeting of the Joint Meeting was held at the office of the Counsel, Mr. Adrian Riker, 164 Market Street, Newark, on the above date at 4 P. M.

There were present: Dr. Wellington Campbell, Millburn; H. J. Stanley, Irvington; J. W. Costello, Newark; Graham King, South Orange; E. G. Pringle, Summit, and F. A. O'Connor, West Orange. The Counsel, Engineer and Treasurer were also present.

The minutes of the last meeting were approved as printed after which Engineer Potter read his report.

"April 9, 1925.

"THE JOINT MEETING:

"Gentlemen:

"In accordance with my promise, I have increased the forces on the work of securing the additional data asked for at the suggestion of Millburn and Newark and have begun making borings along those portions of the proposed supplementary sewer not contiguous to the existing Joint Trunk Sewer, over which we have complete information as to sub-surface conditions. While the appropriation has been made by all other municipalities save Newark, and Summit contingent on Newark, I feel that my bill on account of services for this work should receive the approval of the Joint Meeting as a functioning body before submitting it to the various towns.

"Accordingly I submit herewith a bill for $6,000 for partial payment for services rendered and I would like your directions as to whether the Joint Meeting will collect this amount from the various municipalities and pay me in accordance with your previous method, or whether I shall submit my bill direct to the various municipalities. These surveys will be completed at the earliest date possible. In my investigations, I am proceeding on two different assumptions, one of which is that Newark will join in the enterprise with the other municipalities, and the other is that Newark will follow out their expressed idea of providing their own outlet for the additional sewerage facilities.

"It is a practical impossibility for Newark to sever all of its connections with the Joint Meeting, so that it can be assumed that while it may not need additional capac-

ity, it cannot wholly divorce its flow from the present Joint Meeting. Our counsel, Mr. Adrian Riker, has expressed his opinion that Newark can function as one of the constituent members of the enlarged organization without obligating itself to purchase any additional capacity.

"This opinion of Mr. Riker's is extremely valuable, for in the event of Newark acting independently and discharging its sewage through the Passaic Valley Sewer, Newark's refusal to become a party to the new contract, when they can participate without assuming obligations for additional capacity, would be exceedingly embarrasing to all other municipalities in any attempt to function under the existing laws, as the law under which we propose to act presumes that any expansion of the existing project must be made with the unanimous consent of all municipalities now functioning as the Joint Meeting.

"It is inconceivable that Newark, when thus free from assuming any obligations to share in the payment for additional capacity in the enlarged sewer, would knowingly assume an attitude that would prevent or seriously retard the consummation of this project by the other municipalities when they are made aware that their action would cause such great embarrassment to the other municipalities.

"Newark has been a very important factor in the existing Joint Meeting ever since its inception twenty-five years ago. The advice of its representatives on the Joint Meeting, beginning with the elder Harrison Van Duyne, and including Carl V. Baumann, Dr. Vinson, Judge Eggers, Doctor Kraemer, Arthur R. Denman, Harrison R. Van Duyne and Mr. Costello, has been of great worth. Newark has enjoyed and will continue to receive sewerage facilities through the Joint Trunk Sewer at less cost than on any other portion of the Newark system and consequently its continued cooperation is of advantage, not only to the Joint Meeting, but also to Newark itself.

"Respectfully submitted,

"ALEXANDER POTTER."

On motion the report was received and ordered printed.

It was moved that the members of the Joint Meeting recommend to their respective Governing Bodies, with the exception of Newark, the payment of Mr. Potter's bill for services in preparing additional data looking toward the enlargement of the Joint Sewer. Carried 5 ayes no noes.

Dr. Campbell brought up the matter of the selection of a permanent chairman and expressed the opinion that he should be some one outside of the Joint Body. Mr. King felt that speedy action should be taken while Mr. Stanley and Mr. O'Connor suggested delaying the matter for the present. No action was taken.

The secretary presented the following resolution which on motion was carried, 6 ayes no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2,100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalitites of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 9th day of April, 1925.

"This is the assessment for the 2nd quarter of 1925."

The following bills were read and on motion ordered paid after being approved by the Auditing Committee.

Alexander Potter, March salary	$ 83.33
C. W. Sanford, March salary	200.00
J. J. Keating, March salary	150.00
E. S. Rankin, March salary	35.16
S. H. Rollinson, Jan., Feb., Mar. salary	62.50
Cecelia J. O'Connor, Stenographer fees	50.54
Henry F. Schmidt, Journal	9.00
	$590.53

Mr. Potter reported regarding the Larney bill which was referred to him at last meeting. He said that on several occasions Mr. Larney had helped in removing debris at the river

crossing. There were also other reasons why he recommended continuing the arrangement with him. On motion it was decided to continue the contract, 6 ayes no noes.

The Secretary brought up the request of a property owner in Springfield to construct a branch sewer to serve his property which is off the line of the sewer. After some discussion it was decided that the Joint Meeting had no authority in the matter, but that Summit could if it so desired sell part of its capacity for this purpose.

On motion the meeting adjourned at 5 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of April 29, 1925.

A meeting of the Joint Meeting to which the other municipalities were invited was held on the above date at 4 p. m. in the office of Adrian Riker, 164 Market Street, Newark.

There were present: Dr. Wellington Campbell, Millburn; and Messrs. H. J. Stanley, Irvington; Graham King, South Orange; E. G. Pringle, Summit, and F. A. O'Connor, West Orange. The Engineer and Counsel were also present, together with representatives from Hillside, Maplewood, East Orange, Rosselle Park and Union.

Mr. King moved that the meeting proceed to the election of a Permanent Chairman, he felt that a man not now a member of the Joint Meeting should be selected, and nominated Mr. Wm. S. Hunt of South Orange. Hr. Stanley seconded the motion and on roll call Mr. Hunt was elected, 5 ayes, no noes.

The Secretary presented the following bills which on roll call were ordered paid after being approved by the Auditing Committee. 5 ayes and no noes.

Alex. Potter	May salary	83.33
C. W. Sandford	May "	200.00
J. J. Keating	May "	150.00
E. S. Rankin	May salary and office	35.16
N. Y. Telephone Co.	Service	11.71
Weibezahl Print	Printing Minutes	21.00
Henry Walcheck	Refund, Tap fee	10.00
		511.20

The general meeting then convened, Dr. Campbell being elected Chairman.

Mr. Potter being called on made a verbal report stating that letters had been received from Maplewood and Millburn

questioning the bills submitted by him on account of work done. He said that under these conditions he was uncertain as to how to proceed.

Mr. Wilson of Millburn being called on said that his Committee felt that a progress report should be submitted so that they could know for what the money was being paid, and so that it could be passed on by their Engineer.

Mr. Potter said that it would be impossible to make a formal report until the work was completed and that he was unwilling to have any one pass on uncompleted work.

Mr. Williams for Maplewood said that they had understood that the work would not be started until all the municipalities had passed the resolution. With Newark and possibly Summit out, he asked what the difference in cost would be to Maplewood. On being assured that the cost would not be changed he withdrew the objection.

Mr. Pringle on being asked regarding the attitude of Summit, stated that while they would not have initiated proceedings they were willing to go along with the others.

After further discussion in which Mr. Wilson, Mr. King and Mr. O'Connor took part, Mr. McLean made an urgent plea for speedy action, saying that the Summer would soon be here and many of the men away on vacations which would mean more delay. He moved that the meeting adjourn till June 10 at which time Mr. Potter should present his final report. After further discussion the motion was put and carried.

On motion the meeting adjourned at 5:15 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of May 28, 1925.

Annual Meeting.

The annual meeting of the Joint Meeting was held on the above date in the South Orange Village Hall at 8 p. m.

Those present were Mr. Wm. S. Hunt, Chairman; Dr. Wellington Campbell, Millburn; Messrs. H. J. Stanley, Irvington; Graham King, South Orange, E. G. Pringle, Summit and F. A. O'Connor, West Orange. The Engineer, Treasurer and Inspectors were also present.

On motion the minutes of the last meeting were approved as printed after which the Meeting proceeded to the election of officers for the ensuing year. The following officers were unanimously elected:

Chairman, Wm. S. Hunt
Vice Chairman, Wellington Campbell
Treasurer, Simeon H. Rollinson
Secretary, Edward S. Rankin
Engineer, Alexander Potter
Counsel, Adrian Riker
Chief Inspector Corey W. Sandford
Ass't. Inspector John J. Keating.

Mr. Stanley brought up the matter of an audit of the books and on motion the Secretary was directed to secure bids for the same and report at the next meeting.

After some discussion June 25 was tentatively decided on as the date of the Annual Inspection.

Engineer Potter then presented the following report which on motion was received and ordered printed.

"May 28, 1925.

"The Joint Meeting:

"Gentlemen:

"I submit herewith correspondence with the City of Elizabeth with reference to the construction of the proposed supplementary Joint Trunk Sewer through that City. Elizabeth has been holding up its paving program on streets over which they have given their consent for the construction of the supplementary sewer and they now request us to give them some more definite information as to whether or not the Joint Meeting will construct a sewer in Princeton Road this season.

"The estimates heretofore made have been made with the assumption that it was not necessary to interfere with the paving on this street. The right to construct sewers through the City of Elizabeth is a very valuable right and while the route finally selected is more expensive than had we paralleled our existing sewer in Bayway, the privilege of constructing the sewer over the route indicated is still most important, but I should like to see the expense kept down to the minimum.

"Elizabeth is not the only city where paving programs are being held up waiting the construction of the supplementary Joint Trunk Sewer. It is to be hoped that the Joint Meeting and the other towns interested in the construction of the Joint Sewer will be able to decide in the reasonably near future what action will be taken in reference to this important matter.

"We have been proceeding with the development of the plans with a greatly augmented field and office force and I estimate that the work is now fully 80% completed. From the investigations so far made, I am of the opinion that the total estimated cost of sewer construction will not vary 10% from that submitted last year. The borings have been completed over that portion of the proposed sewer which differs materially from the line of the existing Joint Trunk Sewer and the result of these borings justifies the statement that the estimate for rock will not be increased more than 3500 yards over the quantities assumed based upon our experience with the existing Joint Trunk Sewer. When we consider that the estimate of the first section is in the vicinity of $900,000., an increase of $15,000. on this important and controlling item is negligible.

"My field parties have practically completed all of their work of running necessary levels over the line of the proposed supplementary sewer. The discrepancies found be-

tween the line just run and those previously determined are entirely negligible, as along only one part of the line was there any difference, to be found, and that difference did not exceed one foot (1').

"All of the details have been prepared for the special structures such as railroad crossing and river crossings which occur in the lower sections of the sewer. There are still some details to be prepared for sections 4 and 5. These however, are being given full attention and should be completed within the next week. There now remains only the final tracing of this work in order to complete this phase of the investigation.

"The problems of the sewage treatment have been given the greatest amount of study. This phase of the work, previously had not received as much consideration as other parts of the sewer construction and for that reason it has been given the closest scrutiny.

"Our neighbor, the Passaic Valley Sewer, has installed a large sedimentation plant and the sludge of this plant is pumped into barges and thence taken to sea, where it is dumped. Since the design of the Passaic Valley plant was prepared, much progress has been made in the practice of sedimentation and screening. There are several plants which exemplify the new methods, of which Baltimore, Chicago, Indianapolis and Syracuse are examples. I have visited many disposal plants since our last meeting and hope to incorporate in the plans features tried out at other cities.

"The Inspector reports that stoppages continue to occur on the section of the Joint Trunk Sewer running through the Vailsburg section of Newark and that the sewage is backing up in the cellars along South Orange Avenue.

"I request permission to ask for bids from painters for repainting the exposed cast iron pipe across the Elizabethtown Water Company's property on Section 3. It is many years since this has been painted.

"The City of Newark is planning the repaving of Munn Avenue and prior to the paving of this street, I would recommend that the standard heads be replaced by four Newark pattern manhole covers.

"The City of Elizabeth is preparing to pave Bayway from South Broad Street to St. Georges Avenue and I would recommend that the existing heads be replaced with heavier heads designed to resist the heavy trucks which now pass over the sewer. These have not been required heretofore because the condition of the streets diverted traffic away from our manholes.

"The Township of Union has made a connection to the Joint Trunk Sewer in Vauxhall Road, which was inspected by the Joint Trunk Sewer Inspectors. The flow from these sewers will be charged against Union Township flow. The Township of Union is insisting upon the laying of all of these sewers with rigid inspection and they are still within the permissable flow allotted to them by their contract with the Joint Meeting.

"I request authority to submit bills to the various municipalities covering the value of the services rendered during the last two months, that is to say, for an additional 40% of their respective allotments or $374.80 for the Joint Meeting towns and $749.60 for the other towns.

"Respectfully submitted,

"Alexander Potter."

BOARD OF PUBLIC WORKS
CITY OF ELIZABETH
NEW JERSEY

"May 20, 1925.

"SUBJECT: Proposed extension of proposed Municipal sewer.

"Mr. Potter,
"50 Church Street,
"New York.
"Dear Sir.

"We write again to ask if we may not have some definite information relative to the extension of the Joint Municipal Sewer through this City.

"We have been holding a contract for the construction of a new pavement on Princeton Road (a portion of the proposed course for the sewer) until we should learn definitely when the sewer is to be built. Hearing nothing from you, it has come to a point where the contract must be disposed of. Interest has accrued on the money borrowed for the pavement and the Comptroller's Department has advised that some disposition must be made of the contract immediately.

"May we not hear from you as to when the construction of the sewer is contemplated?

"Yours very truly,
"BOARD OF PUBLIC WORKS
"R. B. Cissell
"President."

ALEXANDER POTTER, C. E.
Consulting Engineer
Hudson Terminal Building
50 Church St. New York

"May 23, 1925.

"Mr. R. B. Cissel
"President,
"Board of Public Works,
"Elizabeth, N. J.
"Dear Sir:

"I have your letter of May 20th. We will have a meeting of the Joint Trunk Sewer Commission within a week, at which time I will bring up the matter referred to in your letter.

"The City of Elizabeth has been very courteous to us in holding this matter open and all that we can do is to ask your further indulgence for a short while.

"With kindest personal regards, I remain

"Yours very truly,
"ALEXANDER POTTER."

"BOARD OF PUBLIC WORKS
"ELIZABETH,
"NEW JERSEY

"May 25, 1925.

"Alexander Potter, C. E.
"50 Church Street,
"New York City, N. Y.
"Dear Sir:

"I wish to acknowledge your favor of May 23rd, and note what you say in regard to a meeting of the Joint Sewer Commission, within one week from date. Would appreciate a reply from you not later than June 3, advising us what conclusions you arrived at.

"Kindly give this matter your prompt attention. Thanking you in advance.

"Yours very truly,

"BOARD OF PUBLIC WORKS
"R. B. Cissel
"President."

It was moved that the general meeting scheduled for June 10 be held on June 11 at 3 p. m. in Mr. Riker's office. Carried.

Moved that the Engineer be authorized to secure bids for painting the iron pipes and proceed with the work. Carried 5 ayes no noes.

Moved that the recommendation of the Engineer regarding new manhole heads be concurred in. Carried 5 ayes no noes.

Moved that the Engineer be authorized to submit bill for services in the amount of an additional 40% to the several municipalities. Carried.

Mr. Stanley called attention to the fact that the Township of Union was building sewers through several new developments and wished to go on record as objecting to Union exceeding the capacity to which it is entitled. After some discussion on the subject it was moved that the Engineer make an investigation of the matter, ascertaining the flow now being discharged by Union and what remedies could be applied in case its capacity was being exceeded and report at the next meeting. Carried.

The Secretary read a letter from the Township Clerk of Union stating that permission had been granted for the construction of sewers in certain streets of the Township. On motion the letter was ordered received and filed.

The report of the Treasurer was then read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the 5th day of March, 1925, the date of his last report, he had on deposit in the Orange National Bank, the sum of $1264.98, with warrants aggregating $120.00 outstanding, so that the total amount of cash on hand at the date of that report was the sum of $1054.98.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $3,030.00, and has been allowed interest by said Bank, in the amount of $5.62, as shown on Schedule I hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule II hereunto annexed, amounting to $1245.15, so

that the total amount of cash on hand at the date of this report is the sum of $2845.45. There are no warrants outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $2,845.45.

"All of which is respectfully submitted this 28th day of May, 1925.

"SIMEON H. ROLLINSON,
"Treasurer."

SCHEDULE I.

Balance, Cash on Hand, March 5, 1925		$ 1054.98
Deposits		
3/5	Town of Irvington	300.00
21	City of Newark	600.00
4/18	Tap fee	10.00
17	Town of West Orange	300.00
20	City of Newark	600.00
22	Town of Irvington	300.00
	Village of South Orange	300.00
27	Township of Millburn	300.00
5/2	Tap fee from Union	10.00
5	City of Summit	300.00
26	Tap fee from Springfield	10.00
27	Interest allowed by Bank	5.62
		$ 4090.60

SCHEDULE II.

Disbursements:				
3/7	Weibezahl Print	3245	$ 51.00	
	N. Y. Telephone Co.	3246	26.19	
	C. W. Sandford	3247	76.23	
	Alexander Potter	3248	83.33	
	S. H. Rollinson	3249	62.50	
	C. W. Sandford	3250	200.00	
	J. J. Keating	3251	150.00	
	E. S. Rankin	3252	35.16	
	Cecilia J. O'Connor	3253	50.54	
	Henry F. Schmidt	3254	9.00	
4/30	Alexander Potter	3255	83.33	
	C. W. Sandford	3256	200.00	
	J. J. Keating	3257	150.00	
	E. S. Rankin	3258	35.16	
	Weibezahl Print	3259	21.00	
	N. Y. Telephone Co.	3260	11.72	
				1245.15
Balance, Cash on hand, May 28, 1925				$ 2845.45

Moved that the motion passed at a recent meeting authorizing the engagement of a stenographer to report the meetings be rescinded. Carried.

The following bills were then read and on roll call ordered paid after being approved by the Auditing Committee. 5 ayes no noes.

Alexander Potter	May salary	83.33
C. W. Sandford	"	200.00
J. J. Keating	"	150.00
E. S. Rankin	"	35.16
Wm. S. Hunt	Executive Committee	5.00
Wellington Campbell	"	30.00
H. J. Stanley	"	30.00
Graham King	"	30.00
E. G. Pringle	"	30.00
F. A. O'Connor	"	30.00
J. W. Costello	"	10.00
N. W. Bindseil	Stenographer's Report	124.80
John R. Franke Co.	Auto Insurance	86.20
C. W. Sandford	Expense Acct.	3.37
C. W. Sandford	Auto Expenses	80.23
E. S. Rankin Sect	Petty Cash	104.00
		$ 1032.09

On motion the meeting adjourned at 9. 40 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 11, 1925.

A meeting of the Joint Meeting to which representatives of the other municipalities were invited was held in the office of the Counsel, Adrian Riker, on June 11th at 3 p. m.

There were present: Wm. S. Hunt, Chairman; Dr. Wellington Campbell, Millburn; H. J. Stanley, Irvington; Graham King, South Orange; E. G. Pringle, Summit, and F. A. O'Connor, West Orange; also representatives from Hillside, Roselle Park, Union and Maplewood. The Engineer and Counsel were also present.

The minutes of the last meeting were approved as printed.

The following resolution was read and on roll call passed, 4 ayes, no noes.

> RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further
>
> RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 11th day of June 1925.
>
> This is the assessment for the 3rd quarter of 1925.

The following bill was read and on roll call ordered paid after being approved by the Auditing Committee. 4 ayes no noes. Travelers Insurance Company, Indemnity Bond $63.00.

The general meeting then convened and Mr. Potter was called on for his report.

Mr. Potter stated that he had not been able to complete his formal report but that he expected to have it ready in another

week when copies would be sent to each municipality. He said that his investigations proved his former estimates to be substantially correct, the rock as disclosed by borings did not differ over 2% from what had been previously assumed. The cost of the 5th section was somewhat increased due to laying the sewer at a greater depth. The total cost of the sewer exclusive of the disposal plant he now estimated at $2,520,000. divided as follows:

	Present Estimate.	Former Estimates.
East Orange	$ 229,000.	$ 206,400.
Hillside	193,500.	205,100.
Irvington	389.300.	367,100.
Millburn	145,900.	140,600.
Newark	453,800.	416,000.
South Orange	140,400.	150,400.
Maplewood	206,700.	217,800.
Summit	117,100.	113,300.
Union	149,200.	149,000.
West Orange	412,700.	455,800.
Roselle Park	82,400.	95,000.
	$ 2,520,000.	$ 2,516,500.

The cost of the disposal plant he estimated at $400,000. for construction only, to which should be added the proper allowance for engineering, inspection, legal fees and contingencies. The annual maintenance cost, based upon 20 m. g. d. was $51,850. which was divided upon the assumption that the cost would be proportionate to the flow. The following figures are purely tentative as the cost of maintenance will not be based wholly upon the question of flow.

	Contribution	Annual Maintenance
East Orange	5.5	$ 2,863.
Hillside	10.20	5,310.
Irvington	13.61	7,085.
Millburn	6.	3,123.
Newark	15.5	8,069.
South Orange	6.	3,123.
Maplewood	7.08	3,686.
Summit	7.5	3,904.
Union	6.3	3,279.
West Orange	12.5	6,507.
Roselle Park	9.44	4,901.

Mr. King raised the question as to the necessity of building the disposal plant at once. Mr. Riker said that the War Department and the State Board of Health would probably insist that this be done.

It was decided to hold the next meeting about two weeks after the final report had been received.

On motion adjourned at 4.20 p. m.

E. S. RANKIN,
Secretary.

Joint Meeting of June 25, 1925.

Annual Inspection.

The Anuual Inspection of the Joint Sewer was set for the above date to meet at the Newark City Hall at 9:30 A. M.. The day proving very stormy it was decided to dispense with the usual inspection trip and proceed to the Suburban Country Club in Union where lunch had been arranged for through the courtesy of Mr. Potter.

There were present Wm. S. Hunt, Chairman; Dr. Campbell, Millburn; H. J. Stanley, Irvington; F. A. O'Connor, West Orange and E. G. Pringle, Summit; of the Joint Meeting, together with the Engineer, Secretary and Inspectors; also the following guests: Messrs. Levins and Willigerod of East Orange; Mayor Bagley and Engineer Higgins of Roselle Park; Messrs. Emmerson and Schoenwaller and Engineer Kreh of Union; Mr. McLean, Counsel and Mr. Luster Engineer of Hillside; Engineer Casey of Irvington and Mr. Hess of Mr. Potter's office.

Vice Chairman Campbell called the meeting to order at 11:30 A. M. An informal discussion was held, Mr. Potter explaining further his plans with particular reference to deviations from the line of the old sewer. He told of a conference with Mr. Riker as to how the sewer could be built in case Newark should decide not to come in, which in Mr. Riker's opinion would be a difficult matter. He also told of the grave necessity for a sewer existing in Hillside and Union. He said he had made no change in the estimates already presented.

Mr. Stanley suggested that a committee be appointed to wait on Mayor Raymond and impress on him the importance of the matter. No action was taken.

Mr. McLean said the editorial in the News regarding the pollution of Arthur Kill had had a very bad effect on the Hillside people and that they were considering an immediate appeal to the State Board of Health as some relief from the intolerable conditions was imperative.

Mr. Potter suggested as a possible solution of Hillside's difficulty that they purchase capacity from Summit. Mr. Pringle said he would be very glad to take up this proposition with the Summit Council.

At 12:30 lunch was served after which Mr. Hunt called on the Secretary who read the following tribute to our late Chairman, Mr. Speir, and greeting to Mr. Hunt.

VALE ET AVE

"The King is dead! Long live, long live the King.
'Twas thus the people cried in former days.
Our leader too is gone, of him I sing
Who safely led us through untrodden ways.

The King is dead, our strength in time of need.
For twenty years and more he led us on
With firm but kindly hand. A king indeed,
His robe the truth, his crown a work well done.

The King is dead, Aye every inch a king,
Courageous, wise and just. My feeble pen
No fitter epitaph than this can bring—
Our friend, and one of God's own gentlemen.

The King is dead, in reverence we stand.
Long live the King! With mingled smiles and tears
We place the fallen sceptor in his hand,
And face with confidence the coming years."

On motion Mr. Pringle the Secretary was directed to spread the verses on the minutes and send a copy to Mrs. Speir.

Mr. Hunt in a brief address emphasized the point that no matter what towns staid out the sewer would be built. Mr. Kreh said that it would be possible for Hillside and Union to join and build their own sewer to Newark Bay.

Mr. Stanley again brought up the matter of a committee to wait on Mayor Raymond and the Chairman appointed Messrs. Stanley and Kreh to select the Committee but felt that action should be delayed until the Mayor had received the formal report.

Mr. Willigerod stated that East Orange was whole heartedly in the project and would do anything in their power to forward it.

After some further talk regarding Mr. Potter's formal report the meeting adjourned at 3:15 P. M.

EDWARD S. RANKIN.
Secretary.

Joint Meeting of September 24, 1925.

A Regular meeting of the Joint Meeting was held in the South Orange Village Hall on the above date at 8 p. m.

Those present were Wm. S. Hunt, Chairman; Dr. Wellington Campbell, Millburn; and Messrs. Stanley, Irvington; Costello, Newark; O'Connor, West Orange, Pringle, Summit; and Miller, South Orange.

Representatives were also present on invitation from East Orange, Hillside, Maplewood, Roselle Park and Union. The Engineer, Treasurer and Inspectors were also present.

The minutes of the last meeting on motion were approved as printed.

The Treasurer submitted the following report which on motion was received and orderel printed:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the 28th day of May, 1925, the date of his last report, he had on deposit in the Orange National Bank, the sum of $2845.45, with no warrants outstanding, so that the total amount of cash on hand at the date of that report was the sum of $2845.45.

The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $2130.00, and has been allowed interest by said Bank, in the amount of $4.46, as shown on Schedule I hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule II hereunto annexed, amounting to $3094.05, so that the total amount of cash on hand at the date of this report is the sum of $1885.86. Warrants 3292, 3293, 3294, and 3295, are still outstanding, aggregating $530.99, so that the Treasurer has on deposit in the Orange National Bank the sum of $2416.85.

"All of which is respectfully submitted this 24th day of September, 1925.

"Simeon H. Rollinson,
"Treasurer.

Schedule I.

Cash Receipts:

		Cash on Hand, May 28, 1925		$ 2845.45
		Deposits:		
June	13	Tap Fee	$ 10.00	
"	16	City of Summit	300.00	
"		Village of South Orange	300.00	
"		Tap fee, Elizabeth	10.00	
"	17	Town of Irvington	300.00	
"	22	Township of Millburn	300.00	
"	23	Town of West Orange	300.00	
July	21	Tap fee, Union	10.00	
"		City of Newark	600.00	
Sept	24	Interest from Bank	4.46	2134.46
		Total Cash Receipts		$ 4979.91

Schedule II.

Disbursements:

May	29	Alexander Potter	# 3261	$ 83.33
"		C. W. Sandford	3262	200.00
"		J. J. Keating	3263	150.00
"		E. S. Rankin	3264	35.16
June	1	William S. Hunt	3265	5.00
"		Wellington Campbell	3266	30.00
"		Graham King	3267	30.00
"		F. A. O'Connor	3268	30.00
"		H. J. Stanley	3269	30.00
"		E. G. Pringle	3270	30.00
"		J. W. Costello	3271	10.00
"		John R. Franke Co.	3272	86.20
"		C. W. Sandford	3273	80.23
"		C. W. Sandford	3274	3.37
"		E. S. Rankin, Sect.	3275	104.00
"		W. W. Bindseil	3276	124.80
"		Travelers' Ins. Co.	3277	63.00
"		Alexander Potter	3278	83.33
"		S. H. Rollinson	3279	62.50
"		C. W. Sandford	3280	200.00
"		J. J. Keating	3281	150.00
"		E. S. Rankin	3282	35.16
"		Alexander Potter	3283	83.33
"		C. W. Sandford	3284	200.00
"		J. J. Keating	3285	150.00
"		E. S. Rankin	3286	35.16

Aug 31	Alexander Potter	3287	83.33	
"	C. W. Sandford	3288	200.00	
"	J. J. Keating	32.89	150.00	
"	E. S. Rankin	3290	35.16	
Sept 30	Alexander Potter	3291	83.33	
"	S. H. Rollinson	3292	62.50	
"	C. W. Sandford	3293	200.00	
"	J. J. Keating	3294	150.00	
"	E. S. Rankin	3295	35.16	$ 3094.05

Total Cash on hand $ 1885.86

The Secretary presented the report of the Expert Accountant engaged to audit the books of the Secretary and Treasurer together with comments of the Secretary.

On motion the report was received and referred to the Auditing Committee.

Joint Sewer Commission
Newark, N. J.
Report
For
Period Ending June 1, 1925.

"August 19th, 1925.

"Joint Sewer Commission
"Newark, N. J.
"Gentlemen:

"In accordance with the instructions of your Mr. Edward S. Rankin, we have audited the books and records of the Joint Sewer Commission for the period of January 1, 1923 to May 31st, 1925 inclusive and as a summary of same, we attach hereto the following Exhibits:

EXHIBIT "A" Balance Sheets as of December 31, 1923, December 31, 1924 and June 1st, 1925.

EXHIBIT "B" Receipts and Disbursements for period January 1, 1923 to June 1st, 1925 inclusive.

"We have verified the assessments and other revenue, also all disbursements and reconciled the cash balance at the close of the period with the balance of the Depository and found same in agreement.

"We have examined warrants No. 3012 to 3264 inclusive which were drawn during this period and verified same with the authorization as shown by your minute book, with the following results:

"Warrants Nos. 3188 and 3236 were not approved by the Auditing Committee.

"Warrant No. 3217 was approved by one member of the Auditing Committee only.

"Warrants Nos. 3022-29 inclusive, 3187, 3197-3216 inclusive, 3218-3229 inclusive, 3248-52 inclusive and 3254-3260 inclusive were approved by two members of the Committee.

"Warrant to C. W. Sandford was entered in the minute book as $32.50 but paid $32.30.

"The total for this meeting, however, is footed as $853.59 but adds as $853.89, evidently, a typographical error.

"Warrant No. 3227 to Weibezahl Print Co., entered in minutes as $58.40 but paid $58.50 and at the following meeting it was reported that $58.50 was paid.

"Warrant No. 3212 to Goldsmith Bros., is not entered in the minutes as authorized for payment, however at the January 8, 1925 meeting, it was reported as being paid.

"A payment to Henry Walchek was authorized at the April 29th, 1925 meeting, but no voucher had been drawn on the Treasurer for payment up to close of this period.

"In verifying the vouchers with the cash book and examining them, we found that the following vouchers were not signed by the Secretary, but paid by the Bank.

Voucher No.	3132	to Alexander Potter for	$ 83.33
" "	3133	to C. W. Sandford for	200.00
" "	3134	to J. J. Keating for	150.00
" "	3135	to E. S. Rankin for	35.16
" "	3153	to N. Y. Telephone Co. for	31.27
" "	3154	to Travelers Ins. Co. for	87.15
" "	3155	to C. W. Sandford for	17.00
" "	3156	to E. S. Rankin, Sec'y. for	20.00
" "	3102	to Alexander Potter for	83.33
" "	3103	to C. W. Sandford for	200.00
" "	3104	to J. J. Keating for	150.00
" "	3105	to E. S. Rankin for	35.16

"Not Signed by the Chairman

"Voucher No. 3072 to E. S. Rankin 35.16

"All other transactions were found in proper order.

"Respectfully submitted,
Federal Audit Co. Inc.,
By A. J. Herriger, President
Certified Public Accountant (N. C.)

Joint Sewer Commission
Balance Sheets as of
December 31, 1923,
December 31, 1924
and
June 1st, 1925.

Exhibit "A"

Assets	December 31,1923.	December 31,1924.	June 1, 1925.
Cash in Bank	$ 47.87	$ 802.94	$ 2376.96
Cash on Hand	150.00	150.00	150.00
Total Assets	$ 197.87	$ 952.94	$ 2526.96
Liabilities			
Surplus in Maintenance Acct.	$ 197.87	$ 952.94	$ 2526.96
Total Liabilities	$ 197.87	$ 952.94	$ 2526.96

Joint Sewer Commission
Receipts and Disbursements
for period
January 1, 1923 to June 1, 1925.

Exhibit "B"

Receipts	1923	1924	1925	Total
Assessments				
Irvington	$ 1200.00	$ 1200.00	$ 600.00	$ 3000.00
Milburn	1200.00	1200.00	600.00	3000.00
Newark	2400.00	2400.00	1200.00	6000.00
So. Orange	1200.00	1200.00	600.00	3000.00
Summit	1200.00	1200.00	600.00	3000.00
Union	2500.00			2500.00
W. Orange	1200.00	1200.00	600.00	3000.00
Interest	12.60	30.03	14.64	57.27
Insurance Rebate	6.03			6.03
Tap Fees	60.00	170.00	30.00	260.00
Total Receipts	$ 10978.63	$ 8600.03	$ 4244.64	$ 23823.30
Balance beginning of period	983.75	47.87	802.94	983.75
Totals	$ 11962.38	$ 8647.90	$ 5047.58	$24807.05

Disbursements

Chief Inspector's Salary	$ 2400.00	$ 2400.00	$ 1000.00	$ 5800.00
Ass't. Inspector's Salary	1800.00	1800.00	750.00	4350.00
Engineer's Salary	1000.00	1000.00	416.65	2416.65
Treasurer's Salary	250.00	250.00	62.50	562.50
Secretary's Salary	422.00	422.00	175.80	1019.80
Executive Committee Salary	115.00	580.00		695.00
Chief Inspectors-Auto Expense	179.02	190.20	63.44	432.66
Chief Inspector's Expense	13.86	30.88	12.79	57.53
Assis't. Enspector's Expense	8.05	8.88		16.93
Printing Minutes	68.75	176.60	72.00	317.35
Stationary & Printing Reports	1966.35	17.25	9.00	1992.60
Telephone	134.15	130.92	37.90	302.97
Charts	9.13	6.00		15.13
Insurance	164.53	224.20		388.73
Material & Labor	374.25	224.83		599.08
Auto Expense	93.17	83.20		176.37
Sundries	416.25	300.00	70.54	786.79
Assessment Rebates				
Irvingson	401.50			401.50
Milburn	260.50			260.50
Newark	507.50			507.50
So. Orange	407.25			407.25
Summit	503.25			503.25
W. Orange	420.00			420.00
Total Disbursements	$ 11914.51	$ 7844.96	$ 2670.62	$ 22430.09
Balance, close of period	$ 47.87	$ 802.94	$ 2376.96	$ 2376.96

"Sept. 22,1925

"Joint Meeting,
"Gentlemen:

"The report of the accountant reconciling the bank balance with the balance as shown on the books of the secretary and Treasurer and finding the two in agreement, notes some apparent irrgularities which should be explained in order to keep the record clear.

"A number of warrants were found not signed by the three members of the Auditing Committee. The former Chairman once ruled that two names were sufficient, however I have brought all these warrants to this meeting so they may be signed in accordance with the recommendation.

"The next two items are apparently misprints in the minutes overlooked in reading the proof as the warrants and vouchers agree.

"Mr. Herriger is in error in saying that warrant 3212 is not entered in the minutes as authorized for payment. It was authorized at the meeting of November 20, 1924 as noted on page 445 of the minutes.

"The payment authorized to Henry Walchek was for the refund of a tap fee, Mr. Potter objecting to allowing the connection to be made. This objection was later withdrawn and the refund not made.

"The next item consists of twelve vouchers not signed by the Secretary. These vouchers were examined in the Treasurer's office and four of them found to be properly signed, showing that even expert accountants are not infallible. The other eight have been signed and are now in order.

"The last item is a voucher not signed by the Chairman. This unfortunately cannot now be corrected but can if desired be signed by the Vice Chairman.

"I would also call your attention to the fact that no Auditing Committee has been appointed for the current year.

Respectfully submitted.
EDWARD S. RANKIN,
Secretary."

The Secretary then read the following Resolution which on roll call was carried, 5 ayes, no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of

$2100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 24th day of September 1924.

"This is the assessment for the 4th quarter of 1925."

The Secretary reported that he had a certified copy of the Resolution passed by Newark. Moved that the resolution be printed in the minutes. Carried.

"WHEREAS: The Township of Millburn in the County of Essex, the City of Newark, the City of Summit, the Town of Irvington, the Town of West Orange, the Village of South Orange, and the Mayor and Council of the Borough of Vailsburg, municipal corporations of the State of New Jersey, unler a joint contract dated the 15th day of March, 1901, did construct a joint outlet or trunk sewer and branches and appurtenances; and

"WHEREAS: The Borough of Vailsburg was later annexed to and became a part of the City of Newark, which said City of Newark succeeded to the rights under and duties imposed upon the Borough of Vailsburg by said contract; and

"WHEREAS: It is now necessary to enlarge anl otherwise increase the capacity of said joint outlet or trunk sewer and branches and appurtenances and to anticipate the construction of a disposal plant and to that end to cause to be made by competent engineers, mechanics and others, surveys, maps, plans, reports and estimates for such proposed work and improvements; and

"WHEREAS: The City of East Orange, in the County of Essex, The Township of Hillside in the County of Union, the Township of Maplewood in the County of Essex, the Township of Union in the County of Union anl the Borough of Roselle Park, in the County of Union, are desirous of securing the privilege of being admitted to

participation in the use and cost of construction and maintenance of said joint outlet or trunk sewer and branches and appurtenances including disposal plant or works when enlarged and increased in capacity and are willing to contribute to the cost and expense of the making of such surveys, maps, plans, reports and estimates; and

"Whereas: Alexander Potter, a competent engineer, is willing to undertake to make and furnish such surveys, maps, reports and estimates for the sum of fifteen thousand dollars ($15,000);

"Be It Resolved: By the Board of Commissioners of the City of Newark, The Governing body of said City charged by law with the duty of constructing sewers and drains therein, that said City of Newark in the County of Essex shall unite with the governing bodies or boards of the other municipalities hereinbefore named charged with a like duty in jointly causing to be made at their joint expense by the said Alexander Potter, said surveys, maps, plans and estimates of the proposed work for the price of fifteen thousand dollars ($15,000) to the payment of which sum of fifteen thousand dollars ($15,000) The City of Newark in the County of Essex shall pay to the said Alexander Potter the sum of nine hundred and thirty-seven dollars and fifty cents ($937.50), which said sum is hereby appropriated and directed to be paid;

"That upon the coming in of such surveys, maps, plans, reports and estimates of the proposed work and the due approval thereof by or on behalf of all the municipalities hereinbefore named, the said City of East Orange, The Township of Hillside, in the County of Union, The Township of Maplewood, in the County of Essex, The Township of Union, in the County of Union, and the Borough of Roselle Park, in the County of Union, shall have the right to be admitted to participation in the use and cost of the construction and maintenance of said joint outlet or trunk sewer and branches and appurtenances and to become parties to the contract for the construction of said proposed works and improvements upon the terms and conditions contained in said contract and to secure capacity therein upon the payment of percentages of cost thereof to be shown by the revised statement to be filed with the clerks of the several municipalities concerned.

"Thomas L. Raymond,
"John Howe,
"Jno F. Murphy Jr.
"W. J. Brennan,
The Board of Commissioners of the
City of Newark, N. J.

"In Testimony whereof I have hereunto set my hand a resolution adopted by the Board of Commissioners of the City of Newark, at a meeting held September 22, 1925.

„In Testimony whereof I have hereupton set my hand and affixed the seal of the City of Newark this Twenty-second day of September A. D. 1925.

"W. J. EGAN,
"City Clerk of Newark."

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 5 ayes 0 noes.

Alexander Potter	June salary	83.33
C. W. Sandford	" "	200.00
J. J. Keating	" "	150.00
S. H. Rollinson	2nd quarter salary	62.50
E. S. Rankin	June salary and office	35.16
Alexander Potter	July salary	83.33
C. W. Sandford	" "	200.00
J. J. Keating	" "	150.00
E. S. Rankin	July salary and office	35.16
Alexander Potter	August salary	83.33
C. W. Sandford	" "	200.00
J. J. Keating	" "	150.00
E. S. Rankin	August salary and office	35.16
Alexander Potter	September salary	83.33
C. W. Sandford	" "	200.00
J. J. Keating	" "	150.00
S. H. Rollinson	3rd quarter salary	62.50
E. S. Rankin	Sept. salary and office	35.16
Adrian Riker	Retainer and fees	751.22
American Surety Co.	Premium on Treasurer Bond	20.00
Federal Audit Co.	Audit of books	100.00
Travelers Ins. Co.	Premium on Liability Bond	21.46
Geo. W. Frost	Repairs to clock	4.00
Standard Bitulithic Co.	Manhole heads	375.00
Flockhart Foundry Co.	Manhole heads	32.00
Weibezahl Print	Printing Minutes	57.00
N. Y. Telephone Co.	Service	21.22
J. J. Keating	Expense Account	4.20

C. W. Sandford	Expense Account	4.56
C. W. Sandford	Auto Expenses	122.00
E. S. Rankin	Petty Cash	88.00
		35.99.62

Mr. Potter being called upon presented his final report, estimates and plans for the enlarged sewer.

On motion the report was received and a certified copy ordered sent to the Clerks of the several municipalities. Mr. Potter stated that he would deliver them personally.

The Secretary was directed to request Mr. Riker to draw a form of Resolution to be used by all of the municipalities in approving the plans.

Moved that the Engineer be authorized to submit bills to the several municipalities for the balance due him under his agreement. Carried.

On motion the meeting adjourned at 10 P. M. to meet on November 5th.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of November 5, 1925.

A meeting of the Joint Meeting was held in the South Orange Village Hall on the above date at 8 P. M.

There were present Mr. Wm. S. Hunt, Chairman; Dr. Wellington Campbell, Millburn; Messrs. H. J. Stanley, Irvington; J. W. Costello, Newark; Graham King, South Orange; E. G. Pringle, Summit; and F. A. O'Connor, West Orange. The Engineer and inspectors were also present.

The minutes of the last meeting on motion were approved as printed.

The Secretary presented the following bills which were ordered paid after being approved by the Auditing Committee 6 ayes, no noes.

Alexander Potter	October salary	$ 83.33
C. W. Sandford	"	200.00
J. J. Keating	"	150.00
E. S. Rankin	" and office	35.16
New York Telephone Co.	Service	28.18
Charles Widersack	Refund, Tap fee	10.00
J. H. Schmidt, Jr.	Raising Manhole head	15.89
C. W. Sandford	Auto expenses	16.25
		$ 538.81

On motion the meeting then adjourned at 8:15 P. M. and immediately reconvened as a General Meeting of all the municipalities.

In addition to the Joint Meeting there were representatives present from East Orange, Hillside and Maplewood. Later on representatives from Roselle Park and Union arrived.

Mr. Hunt stated that the meeting had been called to discuss Mr. Potter's report and learn what action, if any, had been taken by the several municipalities.

Mr. Potter presented the following report:

"November 5, 1925.

"To the representatives of the various municipalities of the Joint Meeting:

City of East Orange	Borough of Roselle Park
Township of Hillside	Village of South Orange
Town of Irvington	City of Summit
Township of Maplewood	Township of Union
Township of Millburn	Town of West Orange

City of Newark

"Gentlemen:

"In accordance with instructions received at the last meeting, I personally delivered the report upon the project together with the tables showing the detailed estimates of cost, maps, plans, profiles and surveys to the Clerks of all of the eleven municipalities interested in providing additional sewerage facilities in the Supplementary Joint Trunk Sewer and secured from them receipts.

"I also submitted to the Clerks a copy of a resolution prepared by Mr. Adrian Riker which should be passed by the various municipalities who desire to proceed with the construction of this work.

"The various towns interested in the project should be in a position to report progress at this time.

"Respectfully submitted
"ALEXANDER POTTER."

On call of municipalities by the Chairman the reports were as follows: Irvington, The report had been received and referred to their Engineer who would make statement later in the evening.

Millburn: The report of their Consulting Engineer had just been received and there had not been time to study it.

West Orange: The Resolution had been passed.

Summit: Resolution not yet passed but would be shortly.

South Orange: Plans and reports received, but not the Resolution. Was ready to pass it.

East Orange: Expect to pass Resolution next week.

Hillside: Resolution passed.

Maplewood: Resolution passed last night.

Union: Mr. Potter stated that they were now holding a meeting at which the Resolution would be passed. This was later confirmed by the Union Representatives.

Roselle Park: Resolution passed.

Returning to Irvington, Mr. Casey stated that he had gone over the report and was satisfied with the design. His estimate of cost exceeded Mr. Potter's by $30,000, being higher on the larger sizes and on the tunnel section and lower on the small sizes.

Millburn stated that there was such a large difference between the estimate of Mr. Potter and of their own Engineer that they wished time for further study in order to reconcile the difference.

Mr. Costello for Newark stated that a study had been made of the Report, but due to the illness of Mayor Raymond no action could be taken.

It was moved by Mr. McLean that when we adjourn we adjourn to meet on December 10 and in the meantime the Legal Departments of the several municipalities be requested to confer with each other and with Mr. Riker and prepare the necessary Contract and Ordinance so that no time would be lost after all of the municipalities had passed the Resolution. Carried.

Mr. Hunt appointed Messrs. McLean, Williams and Congleton as the Legal Committee.

Moved that the Clerks of all the municipalities be requested to attend the next meeting so that they could serve on each other copies of the Resolution. Carried.

Mr. Potter stated that he had with him the receipts for his Report and Plans received from all the Municipal Clerks and asked what should be done with them. On motion he was directed to file them with the Secretary.

Mr. Potter also stated that he had received many calls from owners of property along our right of way who were ready to develop their property and were anxious for some definite word as to what was going to be done. Elizabeth was also getting impatient over the delay. He said that this delay was increasing the cost of the sewer as no property could be acquired or options obtained until the new Joint Meeting was organized. In the mean time prices were rising.

On motion the meeting adjourned at 9 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of December 17, 1925.

The meeting scheduled for December 10 was postponed for one week and held on December 17th at the South Orange Village Hall.

The general meeting was called to order by Chairman Hunt at 8:15 P. M., all municipalities being represented.

Being called on by the Chairman to explain their position regarding the new sewer, the statement was made by the Millburn representatives that they were ready and anxious to go on with the work. They had engaged a consulting engineer and had also appointed a committee of five local engineers, and after careful consideration had decided that the capacity allotted to Millburn was much larger than they required. They felt that three and one half million gallons would be sufficient for their needs instead of six million gallons allotted to them by Mr. Potter.

Mr. Potter said that any change in allotment would mean a readjustment of all the figures and the passing of new Resolutions by all the towns. The total cost of the sewer would not be changed. In response to a question by Mr. Stanley he said he could have the new set of figures ready in a week.

Mr. King asked how the figure of 3½ million was arrived at, the reply being that a rate of 175 gallons per capita was assumed on the estimated population.

Mr. Pringle felt that if one town should change others would likely follow.

Mr. Willigerod stated that the maximum flow in the East Orange sewers was four times the average flow.

Mr. McLean said that as it seemed to be useless to try to persuade Millburn to change her attitude that the problem might be solved in two ways, either by allotting the extra 2½ million among the rest of the municipalities, or by Millburn taking the full six million with the understanding that some of the other towns would immediately take the surplus off their hands. He said Hillside was ready to take her share. The Union representative said Union would be willing to take an increased capacity. He urged haste on the grounds that better prices could be secured if the contracts were let before June.

The Millburn representatives after a conference announced that they would be willing to take four million gallons.

Mr. DeHart for Maplewood suggested that Millburn be given till Monday night to come to a final decision and said that Maplewood would probably be willing to take an additional capacity.

Mr. Kreh, Engineer of Union, said he believed Union would need all of this extra capacity and hoped that Millburn would not take it.

At this point a recess was taken to allow the clerks, ten of whom were present, to serve on each other the Resolutions.

Mr. McLean moved that when we adjourn we adjourn to meet on Dec. 22. Mr. English, Counsel for Union asked for delay in order to give Maplewood and Union an opportunity to confer with Millburn in regard to the purchase of the extra capacity and to obtain legal advice as to how to proceed. He moved as an amendment that we meet on January 10, 1926. After considerable parliamentary discussion a vote was taken on the question of meeting on January 7 and carried 6 to 5.

Mr. English moved that the Millburn Township Committee be authorized and requested to call a meeting of the Maplewood and Union Township Committees at an early date if it shall find itself unwilling to take its allotted share at its Monday meeting, and, that this meeting be held as soon after next Monday as possible and at least one full week prior to January 7. Carried.

He also moved that the Counsel and the Legal Committee, if it shall find after next Monday that Millburn will not take its full quota, shall convene if possible during the same week and invite the Attorneys of Millburn, Maplewood and Union to meet with them with a view to advising this Body at its next meeting of a proper course to be pursued because of changed quotas. Carried.

The General Meeting then adjourned at 10:30 P. M. and the Joint Meeting immediately convened.

The minutes of the last meeting were approved as printed.

Mr. King presented the following Resolution which on roll call was carried. 5 ayes, no noes.

"WHEREAS, in accordance with Chapter 175 of the State Laws of 1919, the Joint Meeting shall before the first day of December in each year make an estimate and determine the cost and expense of maintaining and operating such public improvement for the year beginning the first day of January then next, and shall cause the same to be certified by the Secretary of the Joint Meeting to each of the Municipalities contracting for said improvement;

"THEREFORE BE IT RESOLVED, That the Joint Meeting hereby estimates and determines the cost and expense of maintaining and operating the Joint Outlet Trunk Sewer for the year beginning January 1, 1926, to be the sum of $8,400.00 and the Secretary is hereby directed to mail a copy of this resolution to each of the municipalities represented in the Joint Meeting."

The following bills were read and on motion ordered paid after being approved by the Auditing Committee. 5 ayes, no noes.

Alex. Potter	November salary	83.33
C. W. Sandford	" salary and office	200.00
J. J. Keating	" salary	150.00
E. S. Rankin	" salary and office	35.16
Alex. Potter	December salary	83.37
C. W. Sandford	" "	200.00
J. J. Keating	" "	150.00
E. S. Rankin	" salary and office	35.24
S. H. Rollinson	4th quarter salary	62.50
Wm. S. Hunt	Executive Committee	25.00
Wellington Campbell	" "	25.00
E. G. Pringle	" "	25.00
H. J. Stanley	" "	25.00
F. A. O'Connor	" "	25.00
Graham King	" "	20.00
J. W. Costello	" "	15.00
Weibezahl Print	Printing Minutes	27.00
Flockhart Foundry Co.	Manhole heads	16.00
C. W. Sandford	Auto expense	8.84
C. W. Sandford	Expense Account	7.05
E. S. Rankin	Expense Account	1.55
E. S. Rankin, Secy.	Petty Cash	56.80
		$1296.84

On motion the meeting adjourned at 10:40 P. M.

EDWARD S. RANKIN.
Secretary.

Joint Meeting of January 28, 1926.

The postponed meeting of the Joint Meeting and associated municipalities scheduled for January 7th was held on the above date at the South Orange Village Hall at 8 P. M.

Of the Joint Meeting the following members were present; together with the Engineer, Treasurer and Inspectors.

Dr. Wellington Campbell, Millburn; Messrs. H. J. Stanley, Irvington; F. A. O'Connor, West Orange; Graham King, South Orange, and E. G. Pringle, Summit;

Mr. Hunt being absent on account of illness, Dr. Campbell presided.

The minutes of the last meeting were approved as printed.

Mr. Potter had no formal report but stated that the average flow today was about 7/10 full.

The following resolution was read and passed, 4 ayes no noes.

> "RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further
>
> "RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 28th day of January 1926.
>
> "This is the assessment for the 1st quarter of 1926."

The Secretary presented his annual report which on motion was received and ordered printed

Receipts:	Balance Jan. 1, 1925		$ 802.94	
	Assessments		8400.00	
	Interest		19.10	
	Tap fees		110.00	$9,332.04
Disbursements:	Chief Inspector,	salary	$2,400.00	
	Ass't. Inspector	"	1,800.00	
	Engineer	"	1,000.00	
	Secretary	"	422.00	
	Treasurer	"	250.00	
	Painting Pipe	"	10.00	
	Refund Tap fee		20.00	
	Printing		176.00	
	Telephone		87.30	
	Auto Expense		290.76	
	Stenographer's fees		175.34	
	Book		9.00	
	Executive Committee		325.00	
	Bonds & Insurance		190.66	
	Expense Account		33.52	
	Petty Cash (Labor)		248.80	
	Counsel fees		751.22	
	Audit		100.00	
	Manhole heads		423.00	
	Miscellaneous		4.00	
	Manhole repairs		15.89	8,732.49
	Balance on hand Dec. 31,1925		599.55	

Trial Balance

Cash	599.55	Maintenanec Acc't.	$749.55
Petty Cash	150.00		
	749.55		$749.55

Respectfully submitted,

EDWARD S. RANKIN,
Secretary.

The report of the Treasurer was read and on motion received and ordered printed:

"To the Various Municipalities Comprising the Joint Sewer Meeting:

"Gentlemen:

"The Treasurer respectfully reports that on the 24th

day of September, 1925, the date of his last report, he had on deposit in the Orange National Bank, the sum of $2416.85 with Warrants 3291, 3292, 3293, 3294 and 3295, aggregating $530.99 outstanding, so that the total amount of cash on hand at the date of that report was the sum of $1885.86.

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $2150.00, and has been allowed interest by said Bank, in the amount of $19.84, as shown on Schedule I hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule II hereunto annexed, amounting to $3904.80, so that the total amount of cash on hand at the date of this report is the sum of $150.90. Warrants Nos. 3338, 3339, 3340 and 3341, aggregating $468.49, are still outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $619.39.

"All of which is respectfully submitted this 28th day of January, 1926.

"SIMEON H. ROLLINSON
"Treasurer."

SCHEDULE I.

Sept. 24, 1925,	Cash on hand		$1885.86
Deposits:			
Sept. 25, 1925,	Tap Fee, Union	$ 10.00	
	Tap Fee, Union	10.00	
Oct. 6, "	City of Summit	300.00	
	Town of West Orange	300.00	
13,	Township of Millburn	300.00	
22,	City of Newark	600.00	
Nov. 16, "	Tap Fee, Hillside	10.00	
	Tap Fee, Union	10.00	
Dec. 19, "	Tap Fee, Union	10.00	
	Town of Irvington	300.00	
	Village of South Orange	300.00	
			2150.00
Jan. 28, 1926	Interest allowed by Bank,		19.84
	Total		$4055.70

SCHEDULE II.

Disbursements:

Sept. 25, 1925	Adrian Riker	3296	$751.22
	Traveler's Ins. Co.	3297	21.46
	Federal Audit Co.	3298	100.00
	American Surety Co.	3299	20.00
	N. Y. Telephone Co.	3300	21.22
	Weibezahl Print	3301	57.00
	Flockhart Foundry Co.	3302	32.00
	George W. Frost	3303	3.00
	Standard Bithulethic Co.	3304	375.00
	C. W. Sandford	3305	4.56
	C. W. Sandford	3306	122.00
	J. J. Keating	3307	4.20
	E. S. Rankin, Sect.	3308	88.00
	Alexander Potter	3309	83.33
	C. W. Sandford	3310	200.00
	J. J. Keating	3311	150.00
	E. S. Rankin	3312	35.16
Nov. 6, 1925	N. Y. Telephone Co.	3313	28.18
	Charles Widarch	3314	10.00
	J. H. Schmidt, Jr.	3315	15.89
	C. W. Sandford	3316	16.25
30, "	Alexander Potter	3317	83.33
	C. W. Sandford	3318	200.00
	J. J. Keating	3319	150.00
	E. S. Rankin	3320	35.16
Dec. 18, "	Alexander Potter	3321	83.37
	S. H. Rollinson	3322	62.50
	C. W. Sandford	3323	200.00
	J. J. Keating	3324	150.00
	E. S. Rankin	3325	35.24
	Wm. S. Hunt	3326	25.00
	Wellington Campbell	3327	25.00
	H. J. Stanley	3322	25.00
	E. G. Pringle	3329	25.00
	F. A. O'Connor	3330	25.00
	Graham King	3331	20.00
	J. W. Costello	3332	15.00
	Weibezahl Print	3333	47.00
	Flockhart Foundry Co.	3334	16.00
	C. W. Sandford	3335	15.89
	E. S. Rankin	3336	1.55
	E. S. Rankin sect.	3337	83.33
Jan. 30, "	Alexander Potter	3338	83.33
	C. W. Sandford	3339	200.00
	J. J. Keating	3340	150.00
	E. S. Rankin	3341	35.16
	Total		$3.904.80

The following bills were then read and on roll call ordered paid after being approved by the Auditing Committee. 4 ayes no noes.

Alexander Potter	January salary	83.33
C. W. Sandford	" "	200.00
J. J. Keating	" "	150.00
E. S. Rankin	" " and office	35.16
George B. Larney	Services for 1925	10.00
N. Y. Telephone Co.	telephone service	29.27
C. W. Sandford	Auto expenses	15.45
E. S. Rankin, Secretary	Petty Cash	24.00
		$547.31

The meeting adjourned at 8.35 P. M. and reconvened as a general meeting.

Mr. Potter made an informal report stating that the contract had been prepared and giving the main features in which it had been changed from the preliminary draft. In reply to a question by Mr. Stanley as to the delay, Mr. Potter said that the contract was now based on the capacity of the several towns in the two sewers combined instead of in the supplementary sewer as in the original draft. This was done on account of the several contracts now existing between several of the municipalities in the old sewer. This change involved a large amount of labor and time.

In answer to a question by Mr. McLean it was stated that the ordinance could be introduced without waiting for another meeting.

Mr. Williams explained that at his suggestion the towns were to be asked to appropriate a percentage in addition to the estimated cost in order to provide for all possible contingencies. After some discussion on this Mr. Stanley moved

> That the Secretary be instructed to notify all of the municipalities through their respective clerks that it is the sense of this meeting that twenty-five (25) per cent be added to the estimated cost by each municipality in making the appropriation for the construction of the supplementary Joint Trunk Sewer.

The motion was duly seconded and carried.

On motion the meeting adjournel at 9:30 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of March 11, 1926.

A meeting of all municipalities interested in the enlargement of the Joint Sewer was held in the office of Adrian Riker at 4 P. M. on the above date.

There were present Messrs. E. G. Pringle, Summit and F. A. O'Connor, West Orange of the Joint Meeting, with representatives from all the other municipalities except Irvington.

On motion Mr. O'Connor was elected chaiman of the meeting.

Mr. Potter stated that the meeting was called to discuss the amendments to the Ordinance proposed by Summit and to learn what progress was being made by the several municipalities.

The Counsel for Summit being called on read the following proposed amendments:

Page 19, line 14, after word "thereby" insert:

> "that is to say, of the existing and the proposed supplementary sewer combined, each municipality shall own such an undivided part in each section of said sewers as is represented by the percentage allotments of the combined capacity thereof set forth in this Article."

Page 28, at the end of Article 16, add:

> "All of the findings, notices and acts hereinbefore provided to be made, given and done by the Chief Engineer may be made, given or done by the Joint Meeting."

It was regularly moved and seconded and adopted by unanimous vote that the amendments be approved.

The question was then asked if any municipality had any further amendments to propose and on roll call all answered no.

Moved that the Secretary be instructed to notify all municipalities to include the above amendments on the second reading of the Ordinance. Carried.

On roll call the municipalities reported progress as follows:

East Orange	Ordinance passed final reading.
Hillside	Ordinance passed first reading.
Maplewood	Ordinance passed first reading.
Millburn	Ordinance will be introduced at next meeting.
Newark	Ordinance will be introduced at next meeting.
Roselle Park	Ordinance will be introduced at next meeting.
South Orange	Ordinance passed first reading.
Summit	Ordinance will be introduced at next meeting.
Union	Ordinance passed first reading.
West Orange	Ordinance passed first reading.
Irvington	Not present but understood to have passed Ordinance on first reading.

Mr. Potter stated that he had gone over the entire line on Tuesday and found the sewer overflowing at several points and urged haste in getting the work started.

The printer's bill for printing the ordinance was presented by Mr. Potter and on motion the Joint Meeting was requested to pay this bill for which adjustment could be made on reorganization.

The question as to whether any of the municipalities would assess the cost of the sewer as a local improvement was raised and on roll call all replied in the negative.

On motion the meeting adjourned at 4:50 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of April 22, 1926.

A meeting of the Joint Meeting and Associated Municipalities was held in the Council Chamber of the City Hall, Newark, N. J., on the above date at 4 P. M.

There were present representatives from East Orange, Hillside, Maplewood, Union, Irvington, Millburn, Newark, Summit, and West Orange. The Counsel and Engineer were also present.

The meeting was called to order by Chairman Hunt after which the Secretary read the following letter.

"Trenton, April 14, 1926.

"Mr. Edward S. Rankin,
"Secretary, Joint Committee,
"City Hall,
"Newark, N. J.
"Dear Sir:

"Report in reference to investigation relative to method of sewage treatment proposed for the Joint Outlet Sewer as submitted by your engineer, Alexander Potter, C. E., was presented to the Department of Health of the State of New Jersey at its meeting on April 6th, 1926, and after careful consideration of the same it was on motion voted that the following recommendations submitted by our Engineers be adopted and information to this effect forwarded to you:

"'1. That the Department does not sanction the installation of either of the proposed methods of sedimentation having the retention period specified; that is, sedimentation with a detention period of 2 hours in Dorr clarifiers or Link Belt settling basins.

"'2. That the Department consider that item No. 4 'Single Story Sedimentation Tanks (with separate sludge digestion)', which is under the 'General Requirements for Sewage Treatment Plant' of the Rules and Regulations of the Department apply to the method of sewage treatment proposed for the Joint Outlet Sewer.

"'3-A. That the Department consider that the ultimate treatment—'the whole work'—to which the sewage from the Joint Outlet is to be subjected is to be a method of sedimentation and disinfection.

"'3-B. That the plans, specifications, etc., submitted for the treatment of sewage from the Joint Outlet Sewer be designed for the method outlined above (3-A) and in

accordance with the Rules and Regulations of the Department.

"'4. That the Department express no opinion upon the proposed method of sludge disposal, which is, 'of barging it to sea.'

"Very respectfully,
"H. B. Costill, M. D.,
"Director of Health."

Mr. Potter being called on presented the following report:

"April 22, 1926.

"To
"Representatives of
"City of East Orange, N. J.
"Township of Hillside, N. J.
"Town of Irvington, N. J.
"Township of Maplewood, N. J.
"Township of Millburn, N. J.
"City of Newark, N. J.
"Borough of Roselle Park, N. J.
"Village of South Orange, N. J.
"City of Summit, N. J.
"Township of Union, N. J.
"Town of West Orange, N. J.

"Gentlemen:

"You will recall that in the Fall of 1924, action upon the then pending ordinance for the construction of the Supplementary Joint Trunk Sewer was held up at the request of two municipalities in order, among other things, that plans and estimates for sewage disposal be incorporated in the general sewer plans. As a result of this delay, I was authorized to make investigations as to appropriate plans, and inspections were made of practically all of the large sewage disposal installations throughout the country for the purpose of studying such systems and gaining from the experience of other cities, knowledge as to what might best serve our interested communities. Among the disposal plants inspected were those of Baltimore, Indianopolis, several plants in Chicago, Toronto, Syracuse, Passaic Valley and New York City.

"At the conclusion of this investigation, your engineer recommended that the sewage could be satisfactorily disposed of by sedimentation tanks equipped with mechanical devices to remove the sludge as soon as it was precipitated to the bottom. The most satisfactory method of sludge dis-

posal was found to be transportation to sea by barges.

"The cost of such plant of course depended upon the period of detention considered necessary. As to the period of detention in the sedimentation tanks, your engineer concluded that two hours' detention of the average flow would give satisfactory results, and he reached this conclusion because a less period than this was adopted in the case of the Passaic Valley sedimentation tanks which handle five or six times the volume at present discharged through the Joint Trunk Sewer; the plant for the City of Syracuse with three times the volume has a detention period of one hour, and the plant for the City of Toronto, handling a volume of 60,000,000 gallons, has a detention period of 1¾ hours. Estimates and plans were consequently prepared and submitted, based upon a two-hour period of detention.

"After these plans had been prepared, the State Department of Health issued certain printed rules and regulations prescribing a minimum limit of four hours' detention for sedimentation tanks with separate sludge disgestion, but their rules and regulations stated that special methods of sewage disposal works could be considered as not coming within these rules and regulations. The mechanical apparatus contemplated by these plans justified your engineer in believing that the State would consider this a special method, especially in view of the most favorable point of discharge of sewage in the Arthur Kill, and would not require more than a two hours' period of detention.

"On the 6th of April, about two weeks ago, the Engineers of the State Department of Health submitted a report and recommendation which was approved by the Board of Health, which recommendation will require a four-hour period of sedimentation for the sewage from the Joint Trunk Sewer. I was not informed of this action until April 13th and then unofficially, but the next day I proceeded to Trenton and in a conference with the Director of the State Board of Health and the Chief Engineer, your engineer was advised that they would consider the granting of a permit for the construction of tanks, with a four-hour detention period based upon the average flow at the time the Joint Trunk Sewer was put in service instead of the flow at the end of the ten-year period as provided in the rules.

"A reasonable compliance with this requirement will cause an increase in the cost of construction of the plant of somewhere in the vicinity of $250,000, or an increase in the total estimated cost of the project of less than 8%. As the ordinances passed by the municipalities include an ad-

ditional amount of 25% over the estimates, the decision of the State Department of Health can be complied with without further appropriation; but your engineer is of the opinion that the attention of the municipalities should be called to this requirement of the State Department of Health before actually signing of the contract which has been prepared by counsel and approved, as I understand, by the counsels of the various municipalities.

"The statement of the Director and Chief Engineer of the State Department of Health to the effect that they would consider the approval of plans based upon the flow two years hence instead of a period of ten years as provided by the rules, is premised upon the assumption that the Joint Meeting has authority to, and will proceed with the construction of additional units if in actual practice four hours' detention is found to be required.

"It is not essential to receive the approval of the plans by the State Department of Health prior to the signing of the contract; but the plans must be approved before construction begins.

"Your engineer thinks that it is his duty to point out to you that the delay occurring since October, 1924, has already cost the municipalities more than the additional amount which this increase in size of the plant entails, and it is his honest judgment that a delay of another year will cause even a larger increase in the cost of the undertaking.

"The State Department of Health has approved plans for the construction of a sewerage system for the Township of Hillside based upon its use of the Joint Trunk Sewer. Plans for the sewerage system for the Township of Union have been prepared for some time but have not yet been submitted to the State Department of Health.

"These two municipalities are clamoring for sewerage and the unsanitary condition in both is such that speedy action must be taken to relieve the menacing health situation existing in these municipalities. Should they be obliged to proceed independently, it goes without saying that the remainder of the municipalities interested in this joint construction can secure from the City of Elizabeth the right to pass through its territory only after a protracted legal fight, for the additional grant of sewerage privileges from Elizabeth was based largely upon the grounds that the Joint Meeting is providing a sewerage outlet for its immediate neighbors, namely, the Township of Hillside, the Township of Union and the Borough of Roselle Park.

"The polluted condition of the Rahway River and the

Elizabeth River, due to the overflowing sewage from the municipalities comprising the Joint Meeting, is notorious and continues to menace the public water supplies of the City of Elizabeth and the City of Rahway. It has created an unsightly mess on many streets and on private property during the time when such overflow occurs, and the floating faecal matter is visible in the streams and water courses, including the so-called Panama Canal through Irvington, because of the inadequacy of the existing sewers to provide transportation facilities for the sewage during substantial periods of time. It is no longer a question of sewers overflowing for a few hours or for a few days. This condition exists for many weeks at a time. The importance of the construction of the complete project at the earliest possible moment should be apparent to each of the constituent members of the Joint Meeting and, in my judgment, transcends the question as to whether a sewage disposal plant should be built with two hours' retention or fours hours' retention.

"Very truly yours,
ALEXANDER POTTER."

After the reading of this report Mr. Croft, Engineer of the State Board of Health was called on and explained the position taken by his Board.

In reply to a question by Mr. Riker he said that the plans must be approved by the Board before the sewer could be constructed.

Mr. Congleton asked if the maintenance costs would be increased by the new rules. Mr. Potter replied that the increase in the detention period would not increase the cost, but if chlorination was required the cost would be increased the increase depending on the amount of chlorine required. In his judgment $8,000 per year would be sufficient. Mr. Croft said the amount might vary up to as high as 20 parts per million, in which case the cost would approximate $200 per day. The amount required would depend on the conditions which might exist when the sewer was in operation.

In the course of the discussion it developed that all but two of the towns (Newark and Millburn) had passed the ordinance and they both expected to pass it next week. Also that it would take five or six weeks to revise and complete plans.

The meeting adjourned subject to the call of the Chair

with the understanding that the contract be signed and a permanent organization effected at as early a date as possible.

The Joint Meeting then convened and the following resolution was adopted, 4 ayes no noes.

"RESOLVED: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $2100 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e., each Municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 22nd day of April, 1926.

"This is the assessment for the 2nd quarter of 1926."

The following bills were read and ordered paid after being approved by the Auditing Committee. 4 ayes no noes.

Alex. Potter	February salary	83.33
C. W. Sandford	" "	200.00
J. J. Keating	" "	150.00
E. S. Rankin	" " and office	35.16
Alexander Potter	March salary	83.33
C. W. Sandford	"	200.00
J. J. Keating	"	150.00
E. S. Rankin	"	35.16
S. H. Rollinson	1st quarter salary	62.50
Weibezahl Print	printing contract	242.25
N. Y. Telephone Co.	service	25.46
Weibezahl Print	printing minutes	26.00
Wm. P. Coe	Compensation premium	63.00
Lewis Lansberg	Guage Charts	4.00
C. W. Sandford	Expense Acct	7.06
C. W. Sandford	Auto expenses	38.50
E. S. Rankin, Secy.	Petty Cash	16.00
		1421.75

The meeting adjourned at 5:45 P. M.

EDWARD S. RANKIN,
Secretary.

Joint Meeting of June 10, 1926.
Annual Meeting.

The Annual Meeting of the Joint Meeting was held in the South Orange Village Hall on the above date at 7:45 P. M.

There were present Wm. S. Hunt, Chairman; Wellington Campbell, Millburn; H. J. Stanley, Irvington; J. W. Costello, Newark; E. M. Barradale, South Orange; E. G. Pringle, Summit and F. A. O'Connor, West Orange;

The Counsel, Engineer, Treasurer and Inspectors were also present.

The minutes of the last meeting were approved as printed.

The following letter from Engineer Potter was read and on motion received, recommendations concurred in and agreement directed to be entered into.

"May 18, 1926.

"To the Joint Meeting:

"Gentlemen:

"I submit herewith plans for sewers in Congress Park, which is a part of the lands formerly owned by Conrad Weppler on North Avenue in the Township of Union, Union County. The Joint Meeting acquired a right of way for the sewer through the lands of Mr. Weppler, in which it was provided:

> "'6. That the party of the Second Part will insert three "Y" branches in said sewer on North Avenue in front of the property of the Party of the First Part and other "Y" branches at points to be designated by the Party of the First Part in said right of way for the discharge of sewage for the lands of the Party of the First Part without charge said branches not to exceed one every fifty feet in length for the right of way.'

"The three branches on North Avenue are not concerned in the present inquiry because the land fronting on North Avenue is now owned by others than Congress Park.

"At a conference between a representative of Congress Park, Mr. Riker and myself, a question was discussed as to the extent of the right granted Mr. Weppler. Mr. Riker

expressed the opinion that it might be held that the rights thus granted might extend to all the lands of Mr. Weppler provided sewage would be discharged through the 'Y' branches provided for in the agreement. These 'Y' branches are sixteen in number and were located by Mr. Weppler and are approximately designed for one house connection each. It probably would not be practicable to sewer all lands of Mr. Weppler through these 'Y' branches if the grant should be held to include the right to discharge such sewage into the joint sewer. It is now proposed for the grant to Mr. Weppler above recited there should be substituted an agreement that the owner of Congress Park shall have the right to make three connections with the joint sewer as shown on the plan and shall be given permission to sewer sixteen houses fronting on any sewers which they might build in Congress Park without charge, that the flow from these sixteen house connections be limited to five hundred gallons per house connection per day and that the rest of the flow from these sewers shall be chargeable to the quota of Union Township in the joint sewer and that connections to the joint sewer proposed shall be made in the presence of the joint trunk sewer inspector.

"I recommend the entering into such agreement with the owner of Congress Park.

"Respectfully submitted,
"Alexander Potter."

The report of the Treasurer was read and on motion received and ordered printed.

"To the Various Municipalities Comprising the Joint
"Sewer Meeting:
"Gentlemen:—

"The Treasurer respectfully reports that on the 28th day of January, 1926, the date of his last report, he had on deposit in the Orange National Bank, the sum of $619.39, with Warrants 3338, 3339, 3340 and 3341, aggregating $468.49, outstanding, so that the total amount of cash on hand at the date of that report was the sum of $150.90

"The Treasurer further reports that since the date of his last report he has deposited in the Orange National Bank the sum of $4210. and has been allowed interest by said Bank to the amount of $4.59, as shown on Schedule I hereunto annexed.

"The Treasurer further reports that since the date of his last report he has executed warrants, as shown on Schedule II hereunto annexed, amounting to $2437.55 so that the total amount of cash on hand at the date of this re-

It was decided to hold the Annual Inspection on Wednesday, June 16th.

On motion adjourned at 8.20 P. M.

Edward S. Rankin,

Secretary.

port is the sum of $1927.94, with no warrants outstanding, so that the Treasurer has on deposit in the Orange National Bank the sum of $1927.94.

"All of which is respectfully submitted, this Tenth day of June, 1926.

"Simeon H. Rollinson,
"Treasurer."

SCHEDULE I.

Jan. 28, 1926—	Balance, Cash on Hand		$150.90
Deposits:			
2/8/26—	City of Summit	$300.00	
2/15/26—	Township of Millburn	300.00	
19—	City of Newark	600.00	
	Village of South Orange	300.00	
	Town of Irvington	300.00	
	Town of West Orange	300.00	
5/5/26—	Town of West Orange	300.00	
10—	City of Summit	300.00	
	Township of Millburn	300.00	
13—	Tap Fee	10.00	
15—	City of Newark	600.00	
17—	Village of South Orange	300.00	
19—	Town of Irvington	300.00	
			4,210.00
6/10/26—	Interest allowed by Bank		4.59
	TOTAL		$4,365.49

SCHEDULE II.

Disbursements:

2/4/26—	George B. Larney	3342	$ 10.00
	New York Telephone Co.	3343	29.37
	C. W. Sandford	3344	15.45
	E. S. Rankin, Sect.	3345	24.00
	Alexander Potter	3346	83.33
	C. W. Sandford	3347	200.00
	J. J. Keating	3348	150.00
	E. S. Rankin	3349	35.16
3/12—	Weibezahl Print	3350	242.25
31—	Alexander Potter	3351	83.33
	S. H. Rollinson	3352	62.50
	C. W. Sandford	3353	200.00
	J. J. Keating	3354	150.00
	E. S. Rankin	3355	35.16
4/23—	New York Telephone Co.	3356	25.46
	Weibezahl Print	3357	26.00
	Lewis Landsberg	3358	4.00
	William P. Coe	3359	63.00
	C. W. Sandford	3360	45.56
	E. S. Rankin, Sec'y.	3361	16.00
	Alexander Potter	3362	83.33
	C. W. Sandford	3363	200.00
	J. J. Keating	3364	150.00
	E. S. Rankin	3365	35.16
5/29—	Alexander Potter	3366	83.33
	C. W. Sandford	3367	200.00
	J. J. Keating	3368	150.00
	E. S. Rankin	3369	35.16
			$2,437.55

TOTAL DEPOSITS	$4,365.49
TOTAL DISBURSEMENTS	2,437.55
BALANCE, CASH ON HAND	$1,927.94

The Secretary presented the following Resolution which on roll call was passed, 6 ayes no noes.

"Resolved: That the several Municipalities do raise and pay to the Treasurer of the Joint Meeting the sum of $21.00 which shall be assessed upon the Joint Municipalities in the proportion fixed by the contract between the several Municipalities as provided for the care and maintenance of the Joint Sewer, i. e. each municipality paying an equal amount or one-seventh of such assessment (excepting the City of Newark, which shall pay

two-sevenths, or one-seventh for Newark and one-seventh for Vailsburg), and further that the Secretary be directed to notify the various Municipalities of such assessment and the proportion to be paid by each; and be it further

"RESOLVED: That the said monies be paid to the Treasurer of the Joint Meeting within twenty days of the 10th day of June, 1926.

"This is the assessment for the 3rd quarter of 1926."

The following bills were read and on roll call passed after being approved by the Auditing Committee. 6 ayes, no noes.

Alexander Potter	April salary	83.33
C. W. Sandford	"	200.00
J. J. Keating	"	150.00
E. S. Rankin	April salary and office	35.16
Alexander Potter	May salary	83.33
C. W. Sandford	May salary	200.00
J. J. Keating	May salary	150.00
E. S. Rankin	May salary and office	35.16
C. W. Sandford	Auto expenses	79.75
J. J. Keating	Expense Account	4.64
Wm. G. Dassing	Typewriting	10.00
Wm. S. Hunt	Executive Committee	10.00
F. A. O'Connor	" "	20.00
Wellington Campbell	" "	15.00
E. M. Barradale	" "	5.00
H. J. Stanley	" "	15.00
J. W. Costello	" "	10.00
E. G. Pringle	" "	15.00
Graham King	" "	5.00
C. W. Sandford	Expense Account	5.19
Typewritten Form Letter Co.	Multigraphing	5.00
Geo. W. Frost	Repairing Clock	7.00
John A. Franke	Auto Insurance	79.80
Wm. B. Martin	Recording Contract	3.50
John H. Scott	Recording Contract	81.75
Weibezahl Print	Printing Contract	287.00
Weibezahl Print	Printing Minutes	26.00
E. S. Rankin Secy.	Petty Cash	32.00
Miller & Pillsbury	Stationery	7.50
		1661.11

The Secretary then presented the following report which on motion was ordered received and filed.

"June 8th, 1926.

"Joint Meeting,

"Gentlemen:

"In order to complete the record of all matters leading up to the organization of the new Joint Meeting, the Secretary respectfully reports that immediately following the expiration of ten days after the final passage and publication of the Ordinance by the last of the Municipalities, that is on June 1st, your Engineer and Secretary, realizing that the cost of the work was increasing with each day's delay, undertook to secure the necessary signatures to the contract. Mayor Raymond of Newark affixed his signature at 11:30 A. M. on Tuesday, June first, and the work was completed on the following day at 4 P. M. when Mayor Bagley of Roselle Park signed the document.

"On June 3rd a copy of the contract was filed according to law with the Clerk of Essex County and a copy with the Clerk of Union County, each certifying to the copies which are to be distributed among the contracting municipalities.

"The call for the organization meeting was then prepared, signed by eight of the presiding officers of the Governing Boards of the contracting municipalities, two more than the required majority, and either mailed or personally delivered to every member of all of the Governing Boards. The meeting about to be held is in response to this call.

"Respectfully submitted,
"Edward S. Rankin,
"Secretary."

In answer to a question by Mr. Hunt, the Secretary read the following letter from Mr. Riker.

"June 7th, 1926.

"Edward S. Rankin, Esq.,
"Secretary, Joint Meeting,
"City Hall,
"Newark, N. J.
"Dear Sir:

"I have yours of June 4th. In reply to your inquiries, I submit the following:

"1. The vote for officers will be by ballot and by a majority of the municipalities represented. The act of 1899, Chapter 36, provides,

> "'Each municipality through its body or board represented in such joint meeting, shall be entitled to one vote therein on all motions, resolutions, appointments and all other proceedings taken in or by such joint meeting, and such vote shall be cast and announced as directed by the members of such municipal body or board present in such joint meeting.'

"2. I am of opinion that under the act as originally passed it was contemplated that a quorum of the municipal body represented in the joint meeting should be present.

"By supplemental Chapter 12 Laws of 1902 section 4 it is provided,

> "'In the joint meeting authorized by the act to which this is a supplement, the vote of each municipality shall be cast and announced as directed by the majority of the members of the municipal body or board having authority to construct sewers and drains therein, present at such joint meeting, whether such members present constitute a quorum of such municipal body or board or not, and in case of the presence of only one member of such municipal body or board at the joint meeting the vote of his municipality may be cast by him.'

"3. In my opinion the present joint meeting being a maintenance body only, should be continued until supplementary joint trunk sewer and the treatment plant shall be completed and put into operation.

"4. In as much as the present maintenance body should not be dissolved until completion and putting into operation of the supplementary joint trunk sewer, I am of opinion that the contribution of the several municipalities at present concerned in the operation of the sewer shall be continued until Article 10 of the new contract becomes operative in accordance with its terms.

"Yours very truly,
"Adrian Riker."

The Chairman announced that this being the Annual Meeting the election of officers for the ensuing year was in order. Moved, seconded and carried that the election be held.

Mr. Stanley nominated for Chairman, Mr. William S. Hunt. There being no further nominations it was moved that the nominations close and the Secretary cast the ballot for Mr. Hunt. The same procedure followed for all the officers resulting in the unanimous selection of the following:

Wm. S. Hunt	Chairman,
Wellington Campbell	Vice Chairman,
Edward S. Rankin	Secretary,
Simeon H. Rollinson	Treasurer,
Alexander Potter	Counsel,
Corey W. Sandford	Chief Inspector,
John J. Keating	Asst. Inspector,

Joint Meeting of June 16, 1926.

Annual Inspection.

The annual inspection of the Joint Trunk Sewer was held on the above date, the party leaving the Newark City Hall at 10 A. M.

Those present were Chairman Wm. S. Hunt; E. M. Barradale; South Orange; F. A. O'Connor, West Orange; H. J. Stanley, Irvington and E. G. Pringle, Summit, together with the Engineer, Inspectors and Secretary and the following guests: Engineer Redfern and Clerk Fitzsimmons of South Orange, Edward Hornback of Maplewood and Mr. Broome of Summit.

The outlet at the foot of Bayway was first visited after which an inspection was made of the site of the proposed disposal plant. From this point the line of the new sewer was followed as closely as possible to the junction of sections 2, 3 and 5 and to the deep manhole over the tunnel.

The next and final step was at the Orange Lawn Tennis Club where the party here joined by Engineer Willigerod of East Orange were entertained at luncheon by the Chairman.

After this feature of the program which was greatly enjoyed by all, the meeting was again called to order and the following bill ordered paid after being approved by the Auditing Committee. 4 ayes no noes.

Campbell Foundry Co.	Manhole covers	$30.00

The Secretary made his annual report which on motion was ordered printed and brief remarks were made by the Chairman and a few of the others present.

The meeting adjourned at 3 p. m.

Edward S. Rankin,
Secretary.

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CONSTITUTION
OF
NEW JERSEY